15c

OIL WEEKLY

OIL and GAS ENGINEERING

FOR OIL AND GAS PRODUCERS AND PIPE LINE MEN

THE WEEK'S NEWS INTERPRETED

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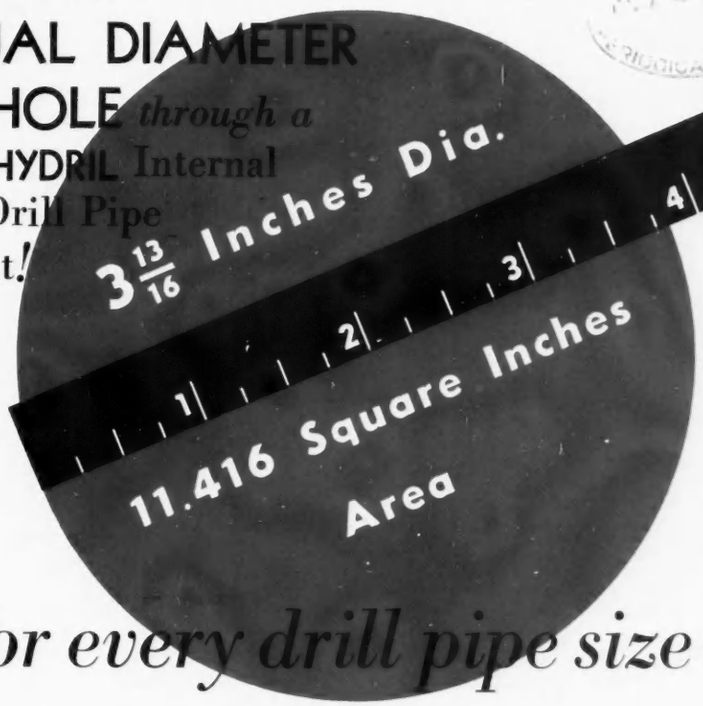

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THE diameter of the hole through all Hydril Internal Flush Drill Pipe Joints from $2\frac{3}{8}$-inch on up is the same as the full inside diameter of the drill pipe itself. Leading operators everywhere recognize the advantages of this truly *wide open* circulation passage.

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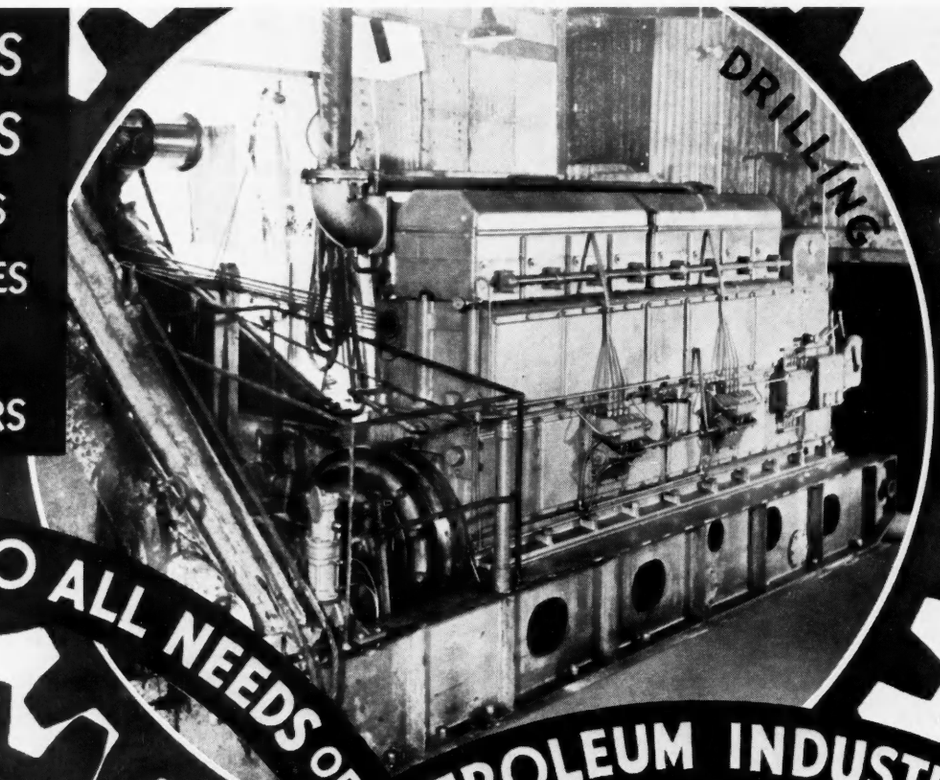
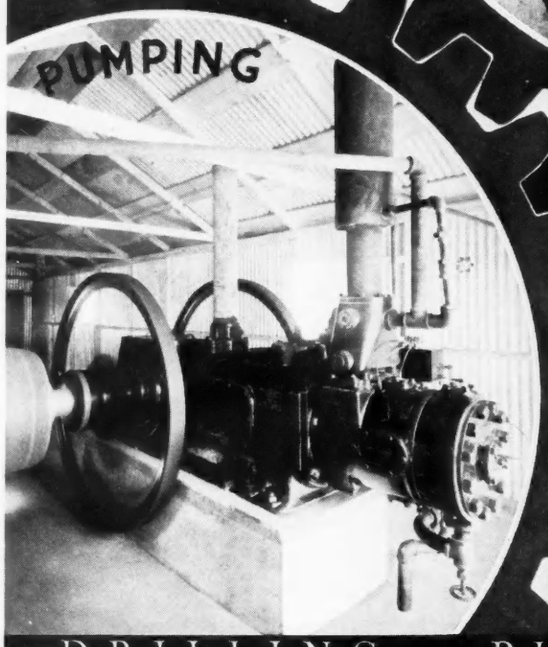


GEARED TO ALL NEEDS OF THE PETROLEUM INDUSTRY



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Newest Type of Diesel Drive! Associated Oil Company's well in Ventura field, California, is being drilled economically by this COOPER-BESSEMER Type FP-8 direct-reversing Diesel engine, which chain-drives the draw works. The engine is rated 400 H. P. at 600 r. p. m.

Finest 40 H. P. Pumping Engine! Type G-AO 12½x16 layshaft gas engine, rated 40 H. P. at 180 r. p. m. Develops 57 H. P. at 200 r. p. m. — 80 H. P. at 300 r. p. m. Engine shown in photo is operated by Magnolia Petroleum Company in the Fitts Pool at Ada, Okla.

Largest Gasoline Plant in East Texas! This battery of twin compressor units consists of eighteen Type 80's . . . totalling 4100 horsepower. The plant is Sinclair-Prairie Oil Company's No. 18, near Gladewater, Texas. An impressive example of efficient low-cost, dependable performance!

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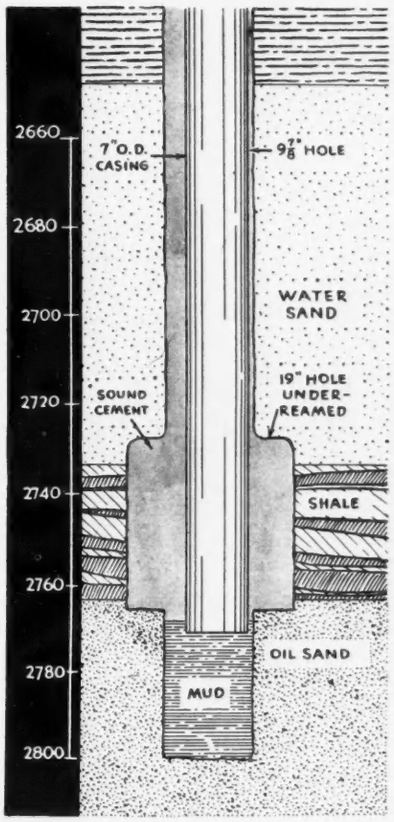

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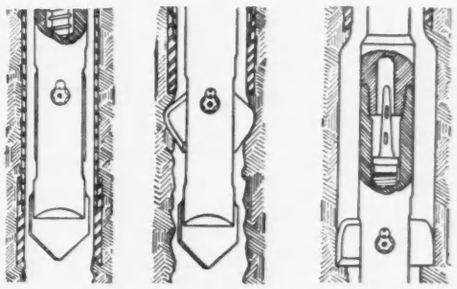
This *proved*, effective method may be utilized in cementing all casing strings to get a better seal around the casing shoe.



Running-in the hole with blades inside of body. *Blades cutting into formation as rotation starts.* *Blades fully expanded in cutting position.*

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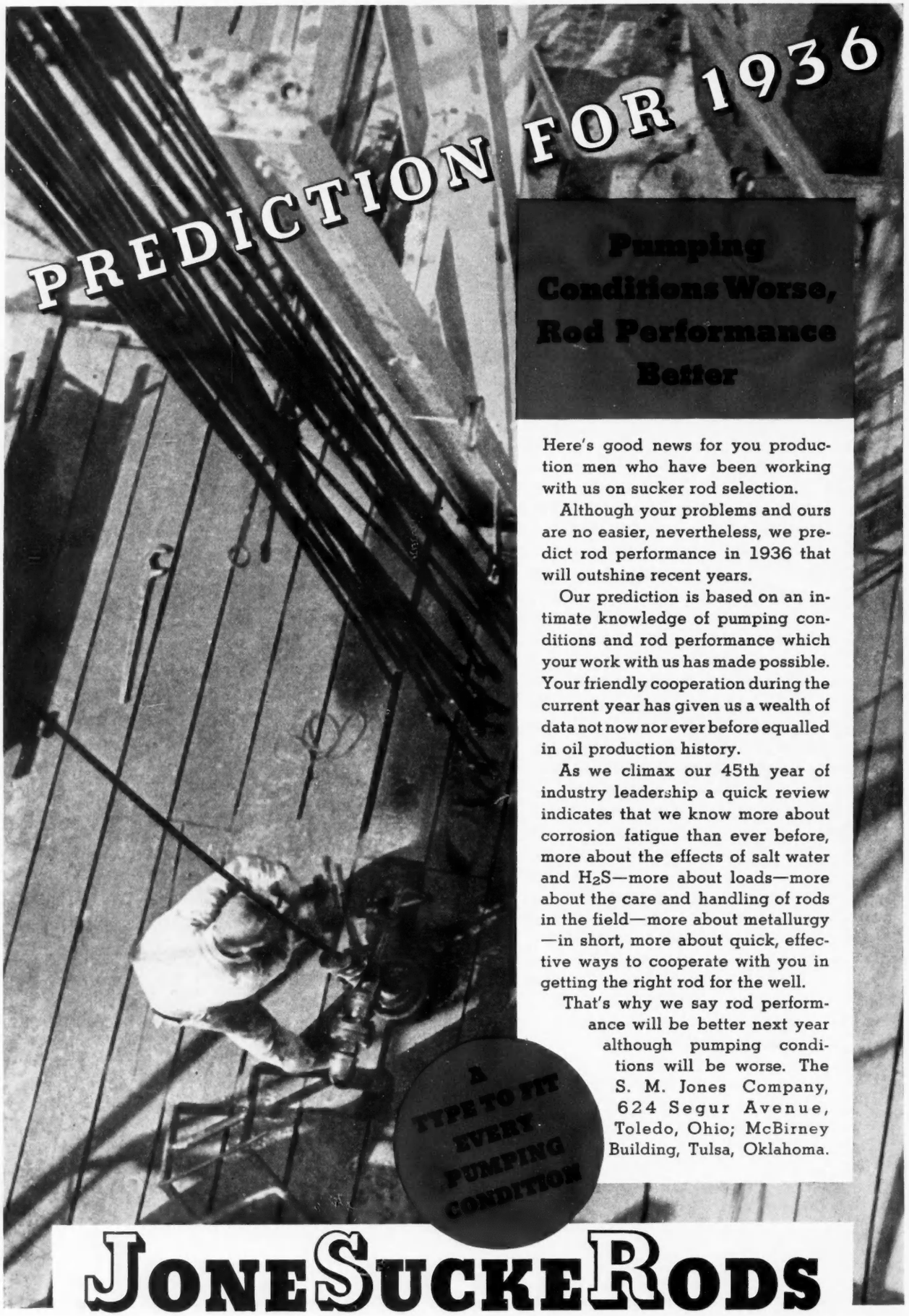
- **When Bottom Water Shut-Off Fails—Wall Scrape to size of original hole or larger (after drilling out old cement)—then re-cement.**

BAKER ROTARY WALL SCRAPER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Our prediction is based on an intimate knowledge of pumping conditions and rod performance which your work with us has made possible. Your friendly cooperation during the current year has given us a wealth of data not now nor ever before equalled in oil production history.
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That's why we say rod performance will be better next year although pumping conditions will be worse. The S. M. Jones Company, 624 Segur Avenue, Toledo, Ohio; McBirney Building, Tulsa, Oklahoma.
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PUBLISHED BY
THE GULF PUBLISHING COMPANY
HOUSTON, TEXAS
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SPECIALIZED OIL JOURNALS
Published by
THE GULF PUBLISHING COMPANY

BRANCH OFFICES

NEW YORK.....250 Park Ave.
PITTSBURGH.....Standard Life Bldg.
CHICAGO.....332 S. Michigan Ave.
LOS ANGELES.....Haas Bldg.
TULSA.....Hunt Bldg.
FORT WORTH.....W. T. Waggoner Bldg.
WASHINGTON.....Albee Bldg.

Member Audit Bureau of Circulations.

Published every Monday. Single Copies 15 cents. Subscription price: domestic and foreign, $2.00 a year. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 1879. Subscription restricted to those engaged in the producing and pipe line branches of the oil industry or the manufacturing and distribution of oil field supplies.
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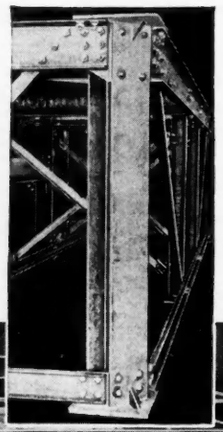
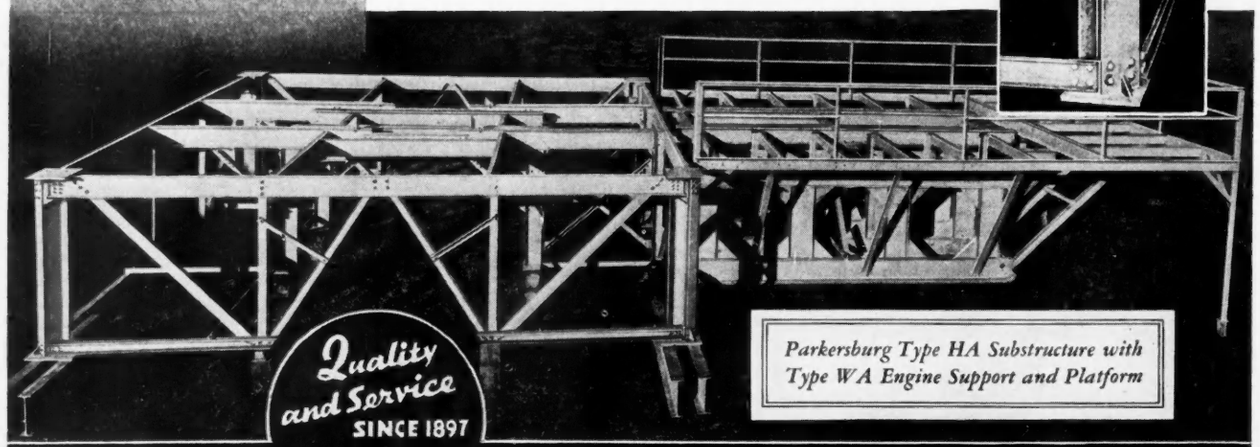
30′	7′ 3″	1,000,000#	500,000#	250,000#

Note: Drill pipe capacity may be increased to 350,000# by installation of optional supports.

Detail view of wide-flange corner column.





Parkersburg Type HA Substructure with Type WA Engine Support and Platform

Quality and Service SINCE 1897

PARKERSBURG

THE OIL WEEKLY

FOR OIL AND GAS PRODUCERS
AND PIPE LINE MEN

ENGINEERING • NEWS • STATISTICS

WARREN L. BAKER, Editor.

. . . this Week

GOVERNMENT officials moved last week to give force to repeated suggestions American interests cease supplying Italy with oil as long as the latter country is at war. Influence was exerted upon shipping interests indebted to the government. It was insisted that one tanker now loaded with oil for an Italian destination cancel the trip. **Page 8.**

FULL investigation of the use of imported products, including asphalt, on projects undertaken with WPA funds is expected. The situation also is expected to get a thorough airing in the next session of Congress. Government officials are attempting to minimize the importance of the question, but nevertheless are disturbed over the possibilities of the situation. **Page 16.**

THE Texas Railroad Commission completely disregarded recommendations of the Bureau of Mines in issuing its December proration order. The Bureau had recommended a production of 1,005,800 barrels daily, while the commission set the figure at 1,060,431 barrels per day. The new commission allowable is an increase of 10,266 barrels daily over the November allocation. The commission selected to increase the state's production, despite the usual seasonal slump, because nominations from purchasers, which are filed in advance of each month with the board, had shown an increase of 36,574 barrels per day. The new allowable is 28,143 barrels daily below the total nominations received. **Page 8.**

IN overruling a motion for rehearing on the famous Brown-Humble spacing case, the Texas Supreme Court has clarified its position as the necessity of the state including acreage as a proration factor. An earlier opinion had been interpreted by many as meaning that acreage must be considered in allocating production. The court says it did not intend to hold that commission proration orders must be based on acreage. Since the original opinion, several months ago, there has been a demand from a number of concerns that the East Texas proration order be revised to include acreage holdings as a factor. This placed the commission and many operators in a "tight spot," and the court's clarification of its opinion is therefore important to East Texas proration, as the field has been developed on another basis entirely. **Page 9.**

SOVIET Russia's petroleum situation has changed radically. A few years ago a prominent question was whether this nation would be able to dominate the world's oil market. Today, petroleum production in U. S. S. R. is hardly sufficient to satisfy domestic needs. Thus, the Soviet oil outlook is not very encouraging. Not only is its standing today dubious, but its future expansion is even more doubtful. **Page 21.**

The Oil Man's Calendar

NOVEMBER

29 *Society of Petroleum Geophysicists, Dallas, Texas.*

DECEMBER

4-5-6 *Petroleum Power Electric Club, Dallas, Texas.*

4-5-6 *Standing Committee, Mid-Continent Oil & Gas Association, Dallas, Texas.*

10 *Mid-Continent Oil & Gas Association, Tulsa, Oklahoma (Date tentative).*

MARCH, 1936

19-21 *American Association of Petroleum Geologists, Tulsa, Oklahoma.*

APRIL

11-13 *Petroleum Industry Electrical Association, Tulsa, Oklahoma.*

13-17 *American Chemical Society, Petroleum Division, Kansas City, Missouri.*

16-18 *National Petroleum Association, Cleveland, Ohio.*

20-25 *Oil Equipment & Engineering Exposition, Houston, Texas.*

MAY

13-15 *Natural Gasoline Association of America, Tulsa, Oklahoma.*

16-23 *International Petroleum Exposition and Congress, Tulsa, Oklahoma.*

? *American Petroleum Institute, Mid-Year Meeting, Tulsa, Oklahoma.*

? *Independent Petroleum Association, Tulsa, Oklahoma.*

CALIFORNIA marketing prospects brightened considerably last week. Gasoline prices throughout the state and in Arizona and Nevada were advanced slightly. Greater encouragement, however, is resulting from attempts to adopt a voluntary code of fair marketing practice, which would establish prices on a profitable basis. There are many things to be worked out before such a program could be adopted, but should it be adopted and effective, the market, even including crude, is expected to be increased. **Page 40**

FURTHER testimony was heard last week in an important case attacking the Texas gas waste law. This particular suit is an attack on the Railroad Commission's orders restraining the stripping of gasoline from sweet gas and popping the residue in the air without repressuring the gas back into the stratum. **Page 10.**

DESPITE the fact that mud laden fluids are recognized as being of vital concern in rotary drilling operations, there appears to be a dearth of satisfactory methods for evaluating rotary muds, particularly under operating conditions, states an investigation report made by a large West Coast company. During the investigation testing methods were developed in an effort to define and evaluate the properties of drilling muds. These tests and the apparatus used are interestingly described by P. H. Jones and E. C. Babson. **Page 25.**

THE proper selection of equipment for an engine-electric rig is to base the capacity of all parts upon the mud pumps because this is the greatest continuous load and will determine the engine size. The hoisting duty is not the factor since it is intermittent and of comparatively short duration. Moreover, if the electrical equipment is selected so that the sizes of the generators and motors are balanced and capable of transmitting power to the pump, there will be sufficient power to develop a fast hoisting cycle. **Page 35.**

Stiffen Export Ban

GOVERNMENT INSISTS OIL CARGO FOR ITALY NOT BE SHIPPED

WASHINGTON, D. C.

MOVING to give force to its repeated suggestions that Americans cease supplying Italy with war materials not actually covered by the ban upon arms and ammunition provided by the Neutrality Act, the Administration this week exerted its influence upon shipping interests indebted to the Government to prevent the movement of such cargoes in vessels on which it has made loans.

The matter immediately before the Administration was a cargo of oil loaded upon the Tanker Ulysses, owned by American Tankers Corporation, to which the Shipping Board had advanced funds. The board, a bureau of the Department of Commerce, insisted that the tanker should not carry the oil to an Italian destination.

Insistence of the government upon holding up such cargoes was indicated by an unequivocal statement by an authoritative Administration spokesman that the United States will adhere undeviatingly to its neutrality policy regardless of what any other nation or the League of Nations may do.

This statement was seen as the government's answer to Europe, where Italian spokesmen had been represented as charging this country with being merely an accessory to the British policy and threatening that an oil embargo would be considered an act of war.

Anticipate More Protests

While the Administration heretofore has contended itself with repeated requests that American business men refrain from any attempt to make "blood money" in war profits, its attitude now is seen as materially stiffened and it is probable that no shipment of oil or other war materials will be allowed to move in ships on which the government has made loans without protest.

There is seen in this attitude an utter disregard of the protests of shippers who thus find themselves handicapped while more fortunate competitors owning tankers will be able to move shipments without molestation.

Discussing the government's neutrality policy, the spokesman for the Administration made it clear that there is no intention of interfering with imports from either of the belligerents in the Italo-Ethiopian war or with the "normal" flow of exports.

No flat embargo on oil or other materials which may be used for war purposes is contemplated, it was said. The sole purpose of the neutrality effort, with respect to commodities other than actual arms and ammunition, is to keep shipments of materials down to the level of normal volume.

There are difficulties in working out the question of the normal volume of trade, it was said, but the government is working out the best it can a volume based on records of past trade.

Pending the passage of further legislation banning exports of war materials by the coming session of Congress, it was declared, it is the intention of the Administration to do what it can to enforce its policies and it will not merely stand by watching a huge flood of war materials going to the belligerent countries without uttering a word.

The United States Government has notified members of the crew of the freighter, Oregon, pictured here tied up at Los Angeles with a load of aviation gasoline, that if the ship sails for Italian Somaliland it will not be protected by the American flag it flies. As Italian bombing planes in Ethiopia thirst for the 36,000 drums of California high-test aviation gasoline aboard, the little body of marine engineers on board the Oregon stand pat on their demands for a special war zone bonus, and refuse to sail.

(International News Photo)

ALLOWABLE RAISED

Texas monthly output is increased 10,000 daily

AUSTIN.

THE December proration order issued by the Texas Railroad Commission last week will permit the production of 1,060,431 barrels per day. This is an increase of 10,266 barrels above the allowable on November 1.

Apparently the commission disregarded entirely the recommendation made by the United States Bureau of Mines, which was 1,005,800 barrels per day for December. The new order provides for the production of 54,631 barrels per day above this amount on the first of the month. A higher allowable will, of course, be in effect every day thereafter so long as this order remains in effect, as allowables assigned to new wells completed after the first of the month are added to those established on the first.

The commission chose to follow its own estimate of demand for Texas oil which is determined from nominations filed by companies purchasing the oil. These nominations totaled 1,088,574 barrels per day for December, an increase of 36,574 barrels per day over the nominations for November production.

Below Nominations

In announcing the new order, the commission pointed out that the total allowable was 28,143 barrels per day below the total nominations received.

Increases were granted to most of the flush fields which offered at the recent statewide hearing testimony to show that the additional oil could be produced without causing physical waste and that there was a firm demand for the oil.

The commission did not, however, follow the recommendation of its chief pe-

troleum engineer, E. V. Cottingham, and reduce the allowable for East Texas.

Commissioner Lon A. Smith issued a formal statement that he was signing the order under protest, as he had become convinced that the East Texas allowable should be increased. Earlier in the week he had issued a lengthy statement on this question which was ignored when the order was prepared.

District allowables under the new order are as follows:

East Texas, 2.8 percent of the hourly potential, estimated at 433,000 barrels; Panhandle, 58,800 barrels; Moore County, 1500 barrels; Osborne area, 1000 barrels.

North Texas, 57,500 barrels, a reduction of 1000 barrels; Foard County, 500 barrels, a cut of 337 barrels.

West Central Texas was increased 616 barrels to 50,779 barrels. The McCamey field received 500 barrels of this increase, and there were several minor changes in the allowables for 16 other fields in the district.

The allowable for West Texas was reduced 3307 barrels to 136,251 barrels per day. The Church and Fields pool was cut 1830 barrels to 6000 barrels per day. Crane-Waddell was raised 200 barrels to 610 barrels, while Gulf-McElroy was cut 870 barrels to 4320 barrels. Hendricks was cut 425 barrels to 15,225 barrels, and a cut of 1000 barrels in Howard-Glasscock reduced the allowable there to 20,000 barrels per day. South Ward was increased 375 barrels to 10,175 barrels, and there were changes in 15 other fields. McKinzie, a new field, appeared on the schedule for the first time and obtained an allocation of 200 barrels.

East Central Texas was raised 2189 barrels to 49,973 barrels per day. This included a raise of 1000 barrels for Van, bringing the allowable there to 36,733 barrels, and a like raise for Cayuga resulted in an allocation of 4720 barrels. Long Lake was increased 200 barrels to 300 barrels per day. There were minor changes in six other fields in this district.

Biggest Raise in Southwest

Southwest Texas was raised more than any other district, receiving an increase of 5178 barrels which resulted in a total allowable of 113,158 barrels per day. The largest increase, 1240 barrels, went to Loma Novia, raising the field allowable to 5240 barrels. Plymouth was raised 1050 barrels to 4500 barrels; New Refugio was increased 600 barrels to 1950 barrels.

The deep sand at Greta was given a separate allocation for the first time; this amounted to 980 barrels. Tuleta was cut 380 barrels to 1956 barrels. There was an increase of 420 barrels for Dirks, resulting in an allowable of 3625 barrels. Noack was cut 486 barrels to 314 barrels per day. Adjustments and changes were made in the allowables of 73 other fields in this district.

The Gulf Coast fields received an increase of 1927 barrels, resulting in a total allowable of 157,970 barrels per day for the district. The most important change was an increase of 1500 barrels which went to Conroe, bringing the field allowable to 41,025 barrels. Anahuac was increased 600 barrels to 2400 barrels and High Island was raised 300 barrels to 6780 barrels. The 585-barrel increase for Hastings brought the field allowable to 3785 barrels per day. The old Hankamer field was cut 412 barrels to 1396 barrels per day. Allowables were changed for 33 other fields in this district.

Rehearing Denied

COURT ALSO RULES ACREAGE NOT PRORATION BASIS REQUIREMENT

AUSTIN.

THE Texas Supreme Court handed down a ruling last week denying a rehearing in the case of C. H. Brown vs. Humble Oil & Refining Company.

The case was decided last summer and is the first decision from the Supreme Court holding Rule 37 valid, and containing specific holdings on the right of an operator to subdivide his property for the purpose of obtaining more wells than he might be allowed to drill otherwise.

In overruling the motion for rehearing, the court indicated clearly that it did not intend, through the original opinion, to hold that proration orders of the railroad commission must be based on acreage.

Holders of large acreage, especially in the East Texas field, had interpreted the opinion as meaning that the railroad commission would be required to allocate production from blanket formations in such a manner that each operator would be permitted to produce daily from his lease that amount of oil in proportion to the total field allowable that his acreage bore to the total productive acreage of the field.

This interpretation was presented by East Texas operators at a recent statewide proration hearing, and the commission was urged to revise the method of allocation in the field to conform with this scheme. The commission, however, noting that the application for rehearing had been filed, announced that no change would be made until a ruling on the motion had been entered by the Supreme Court.

Advocates of the change indicated that they planned to attack the validity of the current East Texas proration order, which is based entirely on the potential of the well and carries no factor for acreage.

In its ruling last week the court quoted from the earlier opinion, pointing to the following clauses:

Classify Original Opinion

"It is now, however, recognized that when an oil field has been fairly tested and deevloped, experts can determine approximately the amount of oil and gas in place in a common pool, and can also equitably determine the amount of oil and gas recoverable by the owner of each tract of land under certain operating conditions . . .

"Conditions may arise where it would be proper, right and just to grant exceptions to the rule so as to permit wells to be drilled on smaller tracts than prescribed therein. Also, conditions may arise where it would be proper, right, and just to permit tracts to be subdivided and such subdivisions drilled after the adoption of the rule; but in all such instances it is the duty of the commission to adjust the allowable, based upon the potential production, so as to give the owner of such smaller tract only his just proportion of the oil and gas. By this method each person will be entitled to the recoverable oil and gas under his land."

The court in the last opinion pointed out that these two paragraphs were those which had been misinterpreted.

"It appears that the first quotation above and a part of the second have been construed by some to mean that this court has undertaken to prescribe them as rules and standards by which to determine property rights and as standards to control the railroad commission in promulgating conservation rules and orders relating to oil and gas. Others have construed the language, or part of the language above quoted from this opinion, to amount to a ruling that acreage must be used as the sole or controlling factor in determining how many oil and gas wells may be drilled on, or how much oil or gas may be taken from, a tract of land, or to hold in effect that whenever a well or wells are permitted to be drilled upon a small tract under the exception to Rule 37, the allowable from such wells must always be adjusted so that the tract will be permitted to produce only a quantity of oil measured by the proportion which its acreage bears to the acreage of tracts developed under the general provisions of the rule..

Erroneous Interpretations

"These are erroneous constructions of the opinion," the court declared. "The language quoted was used, not for the purpose of prescribing rules or standards, but merely in a discussion of the rule and its exceptions, as showing that the rule and the exception with respect to vested rights are reasonable; and that, while it is 'impossible to measure the quantity of oil and gas beneath each tract of land,' or to 'give exact justice to all land owners,' the rule and the exception can be so administered as to prevent the invasion of property rights by fairly and reasonably, but of course not exactly, protecting each owner in the ownership of, and the opportunity to save and produce, the oil and gas which according to the decisions in this state he has the right to take.

"We recognize that the railroad commission is authorized to make rules relating to the production of oil and gas. This court will not undertake to prescribe any rule or standard to guide the commission, except that its actions must be legal, reasonable, and not arbitrary. There are many factors, facts and circumstances, . . . in each case and each hearing which must be considered, weighed and given effect, in the fair and reasonable administration of such laws, rules and exceptions. All questions of fact are primarily for the commission to determine.

"We held in the original opinion, and reiterate it here, that the legislature enacted certain laws which declare the public policy of the state with respect to the development and conservation of oil and gas, and placed the duty upon the railroad commission to carry out the details. The duty is lodged with the railroad commission to make rules to carry out the mandates of the legislature, and to impartially enforce them. In the exercise of its power to grant exceptions to its rules, it is the duty of the commission to treat all interested parties justly, fairly, and impartially under all the facts and circumstances of the case, and the actions and rulings of the commission in attempting to accomplish such results will not be disturbed by the courts, unless they are clearly illegal, unreasonable or arbitrary. All rules and rulings of the railroad commission are presumed to be valid until the contrary is made to appear. If a rule of the commission is found to be illegal or invalid by a court of competent jurisdiction, such court may so adjudge. The court cannot

substitute a new rule for the one adjudged invalid. That power rests exclusively with the railroad commission . . . "

The most competent observers in Austin interpreted the ruling, insofar as it applies to East Texas, as meaning that the commission is under no burden, at this late date, to revise the method of allocation in that field to include acreage as a factor, let alone make it the dominating factor.

SPACE CASE EFFECTS

New ruling may throttle reckless Texas drilling

TYLER.

DISTRICT COURT restraining orders have been used effectively by majors and a few independents within the past five months in over-ruling the Texas Railroad Commission's approval of permits for additional wells on densely drilled leases in the East Texas field. Scores of tests have been held up by temporary injunctions based on the June 12 ruling made by the Supreme Court in the Humble vs. Brown case. Refusal of the senior judicial body to grant a new hearing the past week will encourage a greater use of the court's by East Texas operators in halting alleged unreasonable offsets.

A minimum estimate of 1000 wells proposed by operators that favor unrestricted well density in the East Texas field will be scratched from projected development programs as result of the Supreme Court having adhered to its original well spacing ruling. Total number of proposed wells eliminated by the court order may have ranged from 3000 to 5000, but such an estimate is speculative, as flowing life of the field and the crude price structure are more decisive factors.

The Commission has always dealt generously with permit applications filed as exceptions to Rule 37 by East Texas independents, and when efforts to check the abuse took place the more resourceful operators conceived the idea of sub-dividing leases as a means of attaining more wells and added income. Attorneys have prospered for several years in utilizing their legal talents along with political influence in procuring well permits previously disapproved on their merits. On an acreage investment basis the owners of densely drilled leases are receiving an unproportionate share of the field's restricted output. Those favoring well spacings prescribed by Rule 37 have been free to match offsets, but forecast disasterous economic results unless a curb is placed on excessive drilling.

Majors were the first to avail themselves of the recourse offered by district courts in having the Commission's approved permits set aside under a temporary order.

The court's clarified interpretation of its original opinion requiring the necessity of the commission including acreage as a factor in all proration orders also is of far reaching effect in East Texas, as it eliminates the danger of an upheaval in the proration method employed. The original ruling was thought by many to mean that commission must add acreage as a proration factor, but the court explained this was not its intention.

Gas Law Attacked

INJUNCTION SUIT IS HEARD BY THREE FEDERAL JUDGES

HOUSTON.

AN injunction suit involving the validity of the Texas Railroad Commission's orders on the gas-oil ratio set out in the gas waste law, or House Bill 266, was submitted to a three-judge federal court on Wednesday after testimony had been heard since Monday.

The suit was brought by Clymore Production Company and Nueces Refining Company of Agua Dulce against the railroad commission and United Gas and Texon Royalty companies in an attack on the commission's orders restraining the stripping of gasoline from sweet gas and popping the residue in the air without repressuring the gas back into the stratum.

A. K. Swann, Tulsa, head of plaintiff counsel, submitted evidence tending to prove that the cost of repressuring the gas back into the ground was prohibitive. He also claimed that an investment of $500,000 in eight wells, separator and absorption plant, on which plaintiffs had previously earned a net profit on operations of around $1000 per day, was idle because of an unreasonable and discriminatory interpretation of the gas waste law. He argued that the wells were not gas wells but were really oil wells producing a total of 520 barrels per day of "white crude" oil along with approximately 45,000,000 cubic feet of gas. The plaintiffs were entitled, according to Swann, to the natural benefits accruing to them in the production of this liquid at the most efficient gas-oil ratio discoverable.

Assistant Attorney General Hill replied for the commission that the plaintiffs were estopped from relief in equity because they had applied previously to the commission for regulation of their wells at Agua Dulce as gas wells, and that the "white crude" was really a condensate common to the industry as natural gasoline.

Charles I. Francis, representing United Gas Company, told Circuit Judge J. C. Hutcheson and District Judges T. M. Kennerly and R. J. McMillan that the granting of the injunction would defeat the purpose of the legislature to stop stripping wherever it occurred throughout the state and would in effect "move the Panhandle strippers down to the gulf coast and Southwest Texas."

After hearing much expert testimony as to the effect of pressure and temperature changes on the gas and liquid as it passed from the tubing into the separator, Judge Hutcheson instructed the attorneys that the real issue involved was not a physico-chemical one, but rather the much broader one of the public interest as represented by the legislative intent.

Judge Hutcheson granted attorneys for both sides until December 15 to file briefs, with thereafter an additional five days in which to reply thereto, indicating that the court might dispose of this case when it reassembles in Houston on December 20, to hear a group of other cases involving Panhandle stripper wells.

LOWER ALLOWABLE

Oklahoma operators take 11,900-barrel cut

OKLAHOMA CITY.

OKLAHOMA operators, in a meeting November 26 with officials of the Oil & Gas Conservation Department of the Oklahoma Corporation Commission, voted to accept a 3.6 percent horizontal cut in allowable to conform to the United States Bureau of Mines recommendations as to crude oil demand for December. The figure recommended to the commission is 480,100 barrels per day, a reduction of 11,900 barrels per day below the November allowable. Judge R. G. Lowe, Gypsy Oil Company counsel, asked an agreement which would provide for restoration of the horizontal cut when consumer demand increases, stating that , "If we take a cut now when the increases come such fields as Fitts and Edmond will get the increases and the older fields wil remain drastically prorated." He was supported by the representatives of several major operators but it is doubtful that such a provision will be written into the forthcoming order.

FIVE-DAY GAUGES

Panhandle water wells to get potential tests

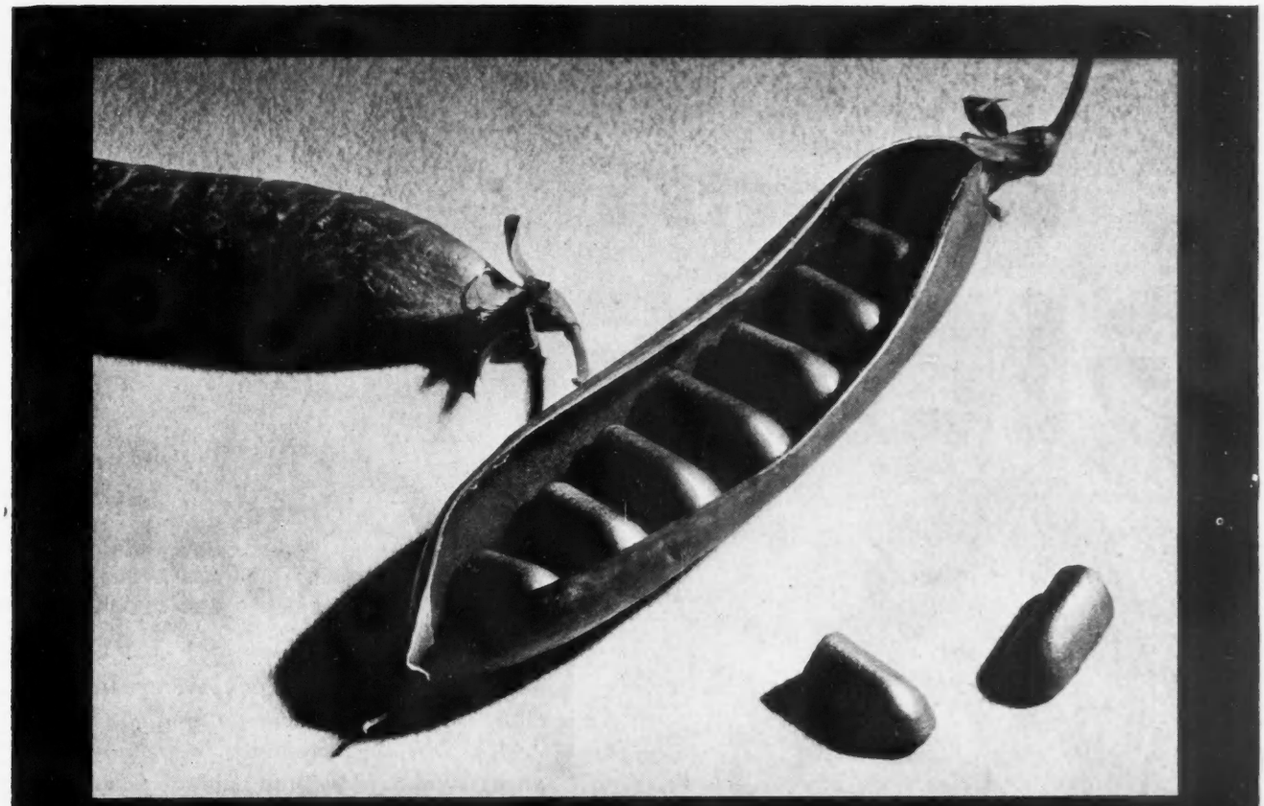
AUSTIN.

AN order has been issued by the Texas Railroad Commission providing for five-day potential tests on wells in the Panhandle, providing they are producing water along with the oil.

Investigation by railroad commission engineers has shown that 24-hour tests on so-called water wells is insufficient to determine potentials.

Until a few months ago, all potential tests of new producers in the Panhandle extended over a period of five days. Operators protested against this system, pointing out that the large production resulting was a menace to the market, and that the information desired could be obtained in a shorter time.

The commission then altered its general order to provide for tests for 24 hours only, and the new order will amend the general order to the extent indicated.



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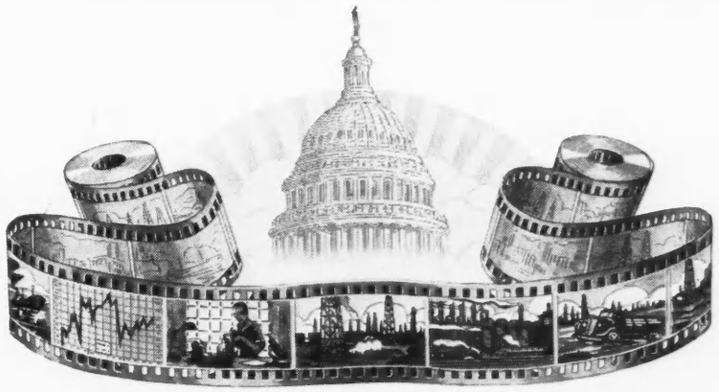

THE OIL WEEKLY'S COMPOSITE VIEW OF INDUSTRY

Edited by JACK LOGAN, Associate Editor

THERE appear to be some sound grounds for the gains made in recent weeks by prices of oil company securities.

In the first place, the industry's favorable statistical position, the best for several years, offers encouragement. Demand for petroleum is near the all-time peak, inventories are low, and current supply is fairly well restricted.

In the second place, oil securities have lagged materially behind the general market. The oil stocks would have to be priced about 25 percent higher than at present, it is indicated, to show as large a percentage of improvement as the general market now shows over the depression bottom of the summer of 1932.

Higher Oil Prices Talked

There are some optimists who can show cause, including figures and charts, why both crude oil and gasoline should be selling in the Mid-Continent at higher than prevailing prices. Based on normal prices of the pre-depression years, it is figured 36 gravity Mid-Continent crude should be selling around $1.35 a barrel, against the present $1 posting. And if the $1.35 crude posting prevailed, then it would justify the refiner in getting around 6½ cents a gallon for U. S. motor gasoline, or a penny more than the present price.

It is conceded, however, that crude and gasoline prices at present are in about the same ratio as in the pre-depression period. In other words, crude and gasoline prices are not out of line with each other. It's just a matter of both being too low—based on the pre-depression prices.

Present Conditions Differ from Past

The snare and delusion, however, in reasoning of this kind is the faulty premise that today's prices necessarily ought to be at a certain level simply because they were at that level in a past period. In 1931 East Texas producers were begging for buyers at 25 cents a barrel, even if the posting should have been $1.35 a barrel as in earlier years. The market was depressed not only by excessive production and hot oil, but by depression psychology.

Conversely, the markets now are buoyed not only by fair balancing of supply with demand and by reduced oil inventories, but also by a recovery psychology. Virtually all commodities have experienced substantial price recovery.

But to say that oil prices should have recovered by now to any particular level other than the prevailing level is to challenge the reliability of the supply-demand relationship in establishing prices.

Consequently, it would appear that present prices of crude and gasoline in the Mid-Continent cannot be far wrong, from a strictly economic standpoint. There is no longer an oil code to exert an artificial influence on the prices, and the present market has hardly budged one way or the other for months, under the workings of supply and demand laws.

It seems, therefore, that hope for higher prices should be tempered for the moment with patience. It will be time to talk seriously about levels to which crude prices should be raised if and when general recovery continues, all commodities gain in market value, and gasoline prices improve further. There will be a truer ring to the talk of higher prices when the gasoline tank car market is strong or rising, instead of shaky as at present; when crude oil purchasers are obliged to compete actively for well connections, which at present they do not have to do.

Before these things happen, particularly the gasoline market improvement, the oil industry possibly will have to go through the winter season of smaller demand, meanwhile vigilantly maintaining its present favorable statistical position. When gasoline consumption turns upward next spring, then there may be more substantial ground for hope of the higher gasoline and crude prices.

Oil for Italy

Premier Mussolini so far is on top with regard to keeping open Italy's access to foreign oil. The League of Nations has postponed indefinitely a meeting scheduled for November 29 for considering an oil embargo against Italy.

It was indicated the postponement was decided on because of two principal considerations: (1) Musso-

lini's blunt warning to France that a ban on oil shipments would mean war, and (2) doubt of England and France that the United States government could stop shipments of American oil to Italy.

The U. S. government recently asked American shippers voluntarily to abandon exporting of oil and other essential war materials to the belligerents, and began applying financial pressure on shippers in debt to the government. However, it was indicated last week that the U. S. government probably would ease its pressure on American exporters unless the League powers actually inaugurate their proposed embargo on war supplies to Italy.

Meanwhile, there come repeated predictions out of Europe to the effect that the stage gradually but surely is being set for another World War.

The American position with regard to the oil shipping demonstrates how easily the United States could become entangled. Because of semi-official cooperation with the League of Nations, America is regarded by Mussolini as inching toward a definitely hostile position. Because of still selling some oil to Italy, the country actually has continued furthering Mussolini's aims. Either to sell oil or not to sell becomes a war-promoting policy.

New Cars Need New Oils

The oil industry's refinery engineers have to be magicians and contortionists to keep abreast of the changing and sometimes whimsical gasoline and lubricant requirements imposed by the automobile makers. This is the impression conveyed in the recent report by the automotive survey committee of the API.

While the auto makers are interested primarily in selling new cars, it was pointed out, the oil industry lives by fueling and lubricating cars of all ages. Of the cars on the road at the end of 1934, only 13 percent had been built that year and nine percent in the previous year; while 50 percent were five years old or older.

But Old Cars, Too, Must Be Supplied

While taking care of the needs of the millions of older cars, the oil industry was obliged at the same time to fill the requirements of the cars of new design. This situation has led, it was said, to difficulty in supplying the fuel and lubricating requirements of the different car models, while the oil refiners have had to bear heavy costs for research and installation of new equipment.

Automobiles requiring over 70 octane gasoline, for instance, represent only 1.4 percent of the total cars registered, it was stated. Yet the oil industry has been obliged to install special equipment and supply such gasoline.

Moreover, the oil industry sometimes has been left holding the sack when automotive designs requiring special oils and lubricants have proved only temporary. For example, the history of free-wheeling was cited, for which special lubricants were developed. The innovation went strong a few years, but then was abandoned to a large extent.

Natural Gasoline Output Rises

The natural gasoline market in the Mid-Continent lately has been affected adversely by a sharp upturn in output in the Texas Panhandle. The district's production was reduced drastically in August and September, following inauguration of the state's new gas waste prevention program, under a new Texas law. But in October the output turned sharply upward, when the gas conservation program was rendered ineffective by court attacks, permitting resumption of gas stripping operations. The production will possibly set new high records within a few months, unless the state revises its gas waste program to meet approval of the courts.

Oil Trapper Denied Injunction

A three-judge federal court at Houston last week denied an injunction against the Texas oil control authorities, sought by an East Texas operator. The operator alleged the railroad commission refused to grant him a tender on 20,000 barrels of oil he had picked up from the creek running through his refinery property. The court indicated the plaintiff had not shown that the commission's general orders requiring reports on trapped oil were unreasonable, and that the plaintiff, admitting non-compliance with those general orders, was not in position to seek relief.

Gas Control Cases Heard

The court also heard pleadings in a case attacking gas-oil ratio orders of the railroad comimssion under the new Texas gas law. Clymore Production Company, of Agua Dulce, the plaintiff, argued its wells, forced by the commission to be closed down, were in effect oil wells, yielding high gravity oil with gas. The state countered that the plaintiff previously reported its wells to the commission as gas wells.

The Texhoma and Panhandle pipe line cases, attacking constitutionality of Texas' new anti gas waste law, will be heard by the court next January 2. The court will hear the so-called stripper cases December 13, the state's attorney having insisted that over a billion feet of gas daily now is being wasted by Panhandle stripping plants, under temporary restraining orders.

Having rescinded the old order, that was disapproved in the courts, the railroad commission indicates it will issue a new gas control order shortly, following a recent exhaustive hearing.

Miscellaneous Notes

FLYING ADVANTAGES. — Aviation looms increasingly larger as a market for oils. Emphasizing this fact was the recent inauguration of regular trans-Pacific flying of mail and passengers, when the China Clipper, 25-ton seaplane, struck out westward from California's coast. 1935."

SAFER MOTORING.—The executive committee of the National Safety Council has invited all interested agencies to join in a five-year campaign it will launch January 1 to reduce automobile accidents. The council announced last week from Chicago headquarters that it seeks to cut the accidents at least 35 percent by 1941, thereby saving 38,000 lives.

BOOM PREDICTED.—The American Federation of Labor in its latest monthly bulletin predicted a business and industrial boom "within the next few years." At about the same time the Federal Reserve Board pointed out in a statement that continuation of business activity around the year's peak has been "the outstanding fact in the economic situation during the first 10 months of 1935.

EMPLOYMENT GAINS.—The Department of Labor last week reported continued gains in both employment and payrolls during October.

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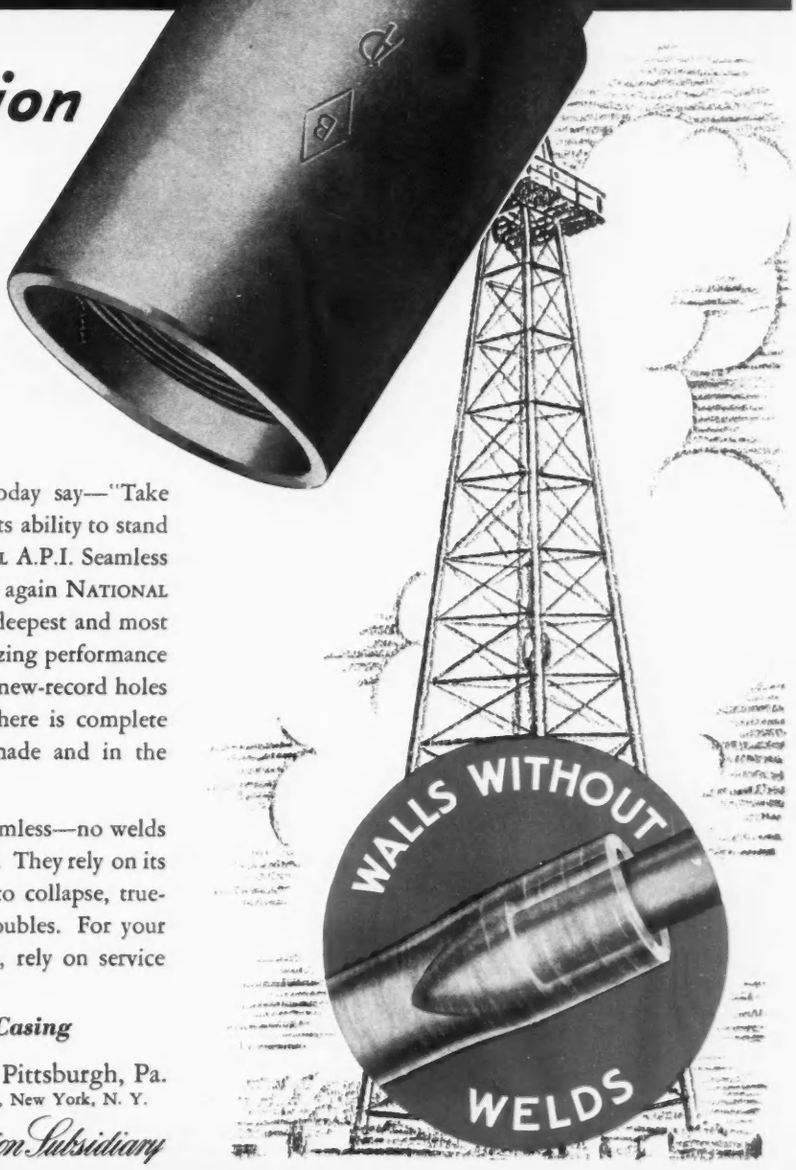

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TO INVESTIGATE

Imported asphalt use by government under fire

WASHINGTON, D. C.

A FULL investigation of the use of asphalt produced from imported oil on projects undertaken with WPA funds was this week promised by Secretary of the Interior Harold L. Ickes, following receipt of a strong protest from Senator Morris Sheppard of Texas.

Declining to divulge the contents of the Sheppard letter, Ickes said that an inquiry had been undertaken although, he added, the matter was one in which the Bureau of Public Roads rather than the Interior Department was concerned, and he felt he was without authority to take any action to remedy the situation, if found to be as represented.

A thorough airing in Congress next session of the use of imported steel, oil and other materials on public works projects is promised by Representative Dickstein of New York, who declares he has sufficient evidence of perversion of the Administration's work relief policy to "convince anyone" that Europe is getting a goodly share of the increased employment to secure which Congress last session turned more than $4,000,000,000 over to the president.

Administration officials in Washington are consistently attempting to minimize the importance of the question, but nevertheless are highly disturbed over the possibilities of the situation. It is freely predicted that the appropriation for continuance of the work work which will be sought during the coming session will be hedged about with safeguards against the diversion of any of the funds of other countries.

SMITH REITERATES

Texas commissioner says allowable raise possible

AUSTIN.

RAILROAD COMMISSIONER LON A. SMITH issued a formal statement last week reiterating his earlier statement to the effect that the allowable for East Texas should be materially increased.

Smith took the stand that the raise could be made without causing waste in the field and without affecting adversely the price paid for crude oil in Texas.

The formal statement was issued in response to reports in the press quoting Edgar Pew, vice president, Sun Oil Company, as criticizing Smith for his views on this question.

Pew was quoted as saying that such a plan was in direct opposition to the testimony of experts presented in evidence at the last hearing of the Texas Railroad Commission. At that time E. V. Cottingham, chief petroleum engineer for the commission, recommended that the December allowable be reduced to prevent unreasonable decline in bottom-hole pressure in the field. Pew suggested that Smith must have been incorrectly quoted.

Smith said in part:

"The vice president of Sun Oil Company takes issue with me in a recent interview given to the press on the question of increased allowable of oil in the East Texas field. I am saying this to the gentleman: I was never more sane than when I gave the interview to the press and the press quoted me correctly.

"I have never yet seen or heard of an oil operator or company who seemed to be very much interested in or concerned about conservation of the natural resources of the state . . .

"It will be shown by the records that before the discovery of the East Texas oil field there was much more oil in storage than there is today . . . The East Texas field has been and continues to be a storage tank for crude oil reserves . . .

"Additional allowable can be produced in East Texas and there is a healthy demand to stimulate an increased allowable . . .

"An increased allowable of a few barrels (per well) a day would help the little man or small producer, with no detrimental injury to the field in any way, and no 'big company' would be hurt . . .

"The fact that the commission refused to incorporate in its December proration order for the East Texas field, the reduction recommended by our engineer, permitting the figures to remain as they were for November (2.8 percent of the hourly potential), is evidence conclusive, and an unanswerable argument, that no reduction in the East Texas allowable should be had at this time . . .

"East Texas has had its boom, mainly because the major interests did not have all the producing acreage. Find an oil field controlled entirely by major operators and compare conditions and results with one in which both majors and independents have holdings. In the latter you will observe greater activities and increased prosperity, better living and labor conditions . . .

"A great many operators in the East Texas field seem to be content to hold the production of the field to around 425,000 barrels daily, hoping for an increase in the price of oil . . . The promise of an increase is detained unduly. I expect an urgent demand for an increased allowable for this field to be presented at the December meeting of the commission, with data, facts, and figures fresh from the field, which will warrant a substantial raise in allowable . . . The operators in this field have not been diligent in this matter."

POTENTIAL HIGH

Kansas rating is largest in its history

WICHITA.

POTENTIAL for the state of Kansas as of November 20 was set at 838,688 barrels, an increase of 72,833 barrels over the October rating. This increase is due largely to big wells in the Oxford pool of Sumner County, the activity in the Steckel and Kessling pools of Rice County and the Lorraine pool of Ellsworth County. It is by far the largest rating the state has had during the history of proration and probably during its entire productive history of more than 50 years.

FUEL DEMAND UP

U. S. consumption of gas and fuel oil up 7%

WASHINGTON, D. C.

THE 1934 domestic demand for gas oil and fuel oil was about 22,000,000 barrels, or seven percent, higher than in 1933 but 54,000,000 barrels under the 1929 peak. This is indicated in the lately issued report of the Bureau of Mines on fuel oil in 1934.

However, gains even over 1933 were recorded for some uses, including consumption by railroads, gas and electric power plants, smelters and mines, manufacturing industries, and for heating oils and oil companies.

There were notable gains in 1934 also in exports including shipments to noncontiguous territories. Such shipments totaled 28,605,000 barrels in 1934, compared with 20,563,000 barrels in 1933 and 19,994,000 barrels in 1932.

The railroads in 1934 purchased nearly nine percent more fuel oil than in 1933, but less than the totals for years 1926 through 1931. Bunker oil loadings in foreign and coastwise trade have declined steadily since 1930, but 1934 brought a slower rate of decrease, the loss having been about a million barrels against two millions in 1933.

Slight gains over 1932 have occurred during 1933 and 1934 in fuel oil deliveries to gas and electric power plants. Also the smelters and mines have been using more fuel oil in the past two years, the 1934 total having been about 37.5 percent over 1932 and seven percent over 1933.

The 1934 demand for fuel oil by a group of manufacturing industries was 52,128,000 barrels, or more than in the three previous years and approaching the 1930 total of 53,921,000 barrels. The industries included in this group embraced: iron and steel products, chemicals and allied industries, automotive industries, textiles and their products, paper and wood pulp, logging and lumbering, cement and lime plants, the ceramic industries, food industries, and "other manufacturing" industries, all these having appeared in the 1931 report of the bureau.

In reporting their sales of heating oils to the bureau, some oil companies found it impossible to separate commercial and domestic grades. Consequently all heating oils from No. 1 to the heavy commercial heating grades are included in the 1934 total and comparable totals have been compiled for the years 1930-1933. These revisions indicate a steady increase in demand for heating oils except for 1931, when a decline occurred. The increase in the market for heating oils in 1934 was conspicuous, the gain having been over 20 percent compared with 1933.

There was in 1934 a 50 percent gain over 1933 in demand for range oil, which is usually a partly refined kerosene used chiefly in the New England area for cooking, space heating, and water heating. Sales of range oil, not included in the fuel oil totals, were reported as 15,756,000 barrels in 1934, compared with 10,269,000 barrels in 1933 and 6,841,000 barrels in 1932.

In their field and refinery operations oil companies in 1934 used about 1,200,000 barrels more fuel oil than in 1933. Since oil used as fuel at refineries dropped slightly in 1934 from 1933, the increased use is the result of more extensive field operations.

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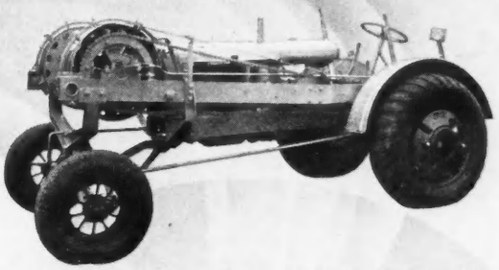

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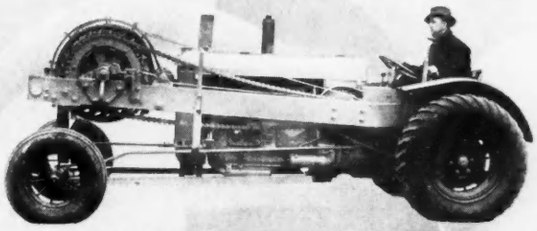

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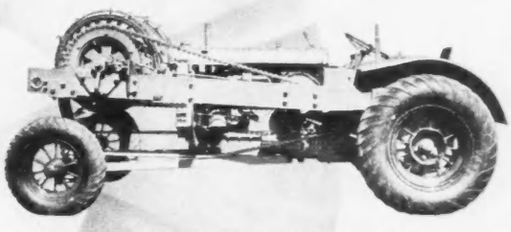

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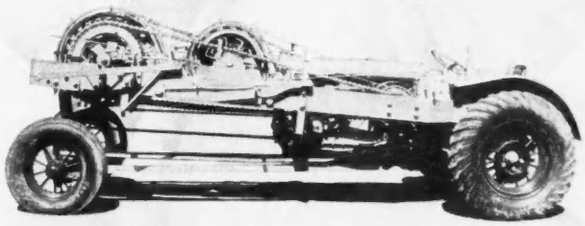

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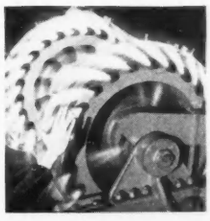

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MEN IN THE INDUSTRY'S NEWS

LUTHER H. WHITE, pioneer Oklahoma geologist and for the past 16 years affiliated with the J. A. Hull Company, effective December 1, became head of the land and geological department of Sunray Oil Company. White was a graduate of the class of 1914 at the University of Oklahoma and has spent practically his entire career in the study of Oklahoma geology. In 1926 he completed an exhaustive study of northeastern Oklahoma and in June of that year the results of his study were published under the title, "Subsurface Distribution and Correlation of the Pre-Chattanooga ('Wilcox' Sand) Series of Northeastern Oklahoma." This work, published as Bulletin 40-B by the Oklahoma Geological Survey, has been a reference work for many years. Although not a charter member he was elected to membership during the second year of the existence of the American Association of Petroleum Geologists of which he was a vice president one year. He was a charter member of the Tulsa Geological Society and has been its president. J. H. Walker, who has been acting chief geologist for Sunray Oil Company, will continue his services as Mr. White's assistant.

WILLIAM L. HORNER, petroleum engineer, Forest Oil Corporation, has returned to his headquarters at Bradford, Pennsylvania, after spending two months in the Nowata, Oklahoma, area, where his company is starting water-flood operations.

ARCH CLARK, assistant chief civil engineer for Sun Oil Company, Dallas, has been placed in charge of the department, succeeding Fred C. Metzger, who died November 3. Clark has been with the company 15 years, and his former duties will be assumed by M. G. Roberts, who served with Beacon Sun Oil Company in Venezuela several years and until recently was with Sperry-Sun Well Surveying Company.

R. N. KIRBY, prominent in South American oil circles, recently left London for Bahrein, where he will visit producing properties of Bahrein Petroleum Company, Ltd., subsidiary of Standard Oil Company of California.

A. G. AGNEW, veteran West Texas operator and contractor, is confined at his residence in Ballinger from injuries sustained November 23 when his car and a bus collided near the Ballinger field.

H. D. PATRIDGE, manager of purchases, stores and transportation for Indian Territory Illuminating Oil Company, was nominated for president of the Petroleum Motor Transport Association of Oklahoma in a report of the nomination committee submitted to the members November 22. C. L. Bowman, Shell Petroleum Corporation, received the nomination for first vice president; J. E. Johnson, Tide Water Oil Company, for second vice president; and L. E. Schroeder, Mid-Continent Petroleum Corporation, for secretary-treasurer. Schroeder has served the association in this capacity for several terms.

R. A. BROOMFIELD SUCCEEDS NEAL ANDERSON AS PRESIDENT OF OIL PRODUCERS AGENCY OF CALIFORNIA

»

OTHER CHANGES ARE MADE IN ORGANIZATION

»

R. A. BROOMFIELD

R. A. BROOMFIELD, president of Barnsdall Oil Company of California, and for the past five years senior vice president of Oil Producers Agency of California has been elected president of the agency to fill the unexpired term created by the resignation of Neal H Anderson. Pressure of personal business compelled Mr. Anderson's relinquishment of his duties as president. He had devoted his entire time and energy to the work of the agency for the past nine months. To fill the vacancy caused by the elevation of Mr. Broomfield to the presidency, Assistant Secretary William H. Geis of Arrowhead Oil Company was elected vice president. H. A. Bardeen of Bardeen Petroleum Company was elected to the position of assistant secretary to fill the vacancy caused by the elevation of Mr. Geis to a vice presidency.

COMMANDER H. V. LARRINGTON, R.N., now is serving as chairman of the Trinidad branch of the Institution of Petroleum Technologists.

DON KATZ, Phillips Petroleum Company, Bartlesville, presented and led the discussion of a paper, "A Method of Estimating Oil and Gas Reserves," before the Mid-Continent Section, American Institute of Mining and Metallurgical Engineers, on November 25. This paper originally was presented at the recent Houston meeting of institute.

JOHN I. MOORE, San Angelo operator, spent the fore part of last week in Dallas and Fort Worth disposing of acreage spreads around two additional wildcats to be drilled in West Texas. Moore and associates have been among the most active wildcatters in the Permian Basin this year, and topping off their efforts with an Ordovician lime project in Crane County.

J. F. BRANNON, former scout and more recently in the production department of Pure Oil Company at Mexia, has been transferred to Odessa to scout West Texas areas.

W. ARMSTRONG PRICE, consulting geologist of Corpus Christi, Texas, was elected president of the Texas Academy of Science at a meeting of the organization at Texas A.&M. College, College Station, November 9.

CLYDE L. WAGNER, consulting geologist of Oklahoma City and in charge of geological work for Ramsey Petroleum Corporation in Colorado, is making his headquarters temporarily at the Cosmopolitan Hotel, Denver.

JOHN DAVIS, assistant to the superintendent of production in Texas for Magnolia Petroleum Company, Dallas, is on a vacation trip to points in Southern Louisiana.

E. B. STILES, geologist and production engineer for the joint operations of Tide Water Oil Company and Texas Seaboard Oil Company in the Cayuga and Long Lake fields, visited the Dallas district headquarters of the latter company last week.

OLIN G. BELL, Laredo, Texas, district geologist for Humble Oil & Refining Company, has been elected vice president of Section IV for geological and geographical sciences of the Texas Academy of Science.

E. COOPER SCOTT, M.C., B.Sc., A.M., presented a paper entitled "Improvements in Drilling Speed and Their Effects on Cost" before a regular meeting November 27 of the Trinidad branch of the Institution of Petroleum Technologists.

CHARLES MILLARD PRATT, former Standard Oil Company vice-president, and a retired financier, died at his home in Glen Cove, New York, November 26, following a long illness. He formerly was president of the Pratt Institute in Brooklyn, and a trustee of Amherst College.

HARRY HUNTER, an official of Roco Refining Company, owner of an East Texas refinery, was fatally wounded November 24 by gunfire at Kilgore. A former refinery workman was arrested after the attack.

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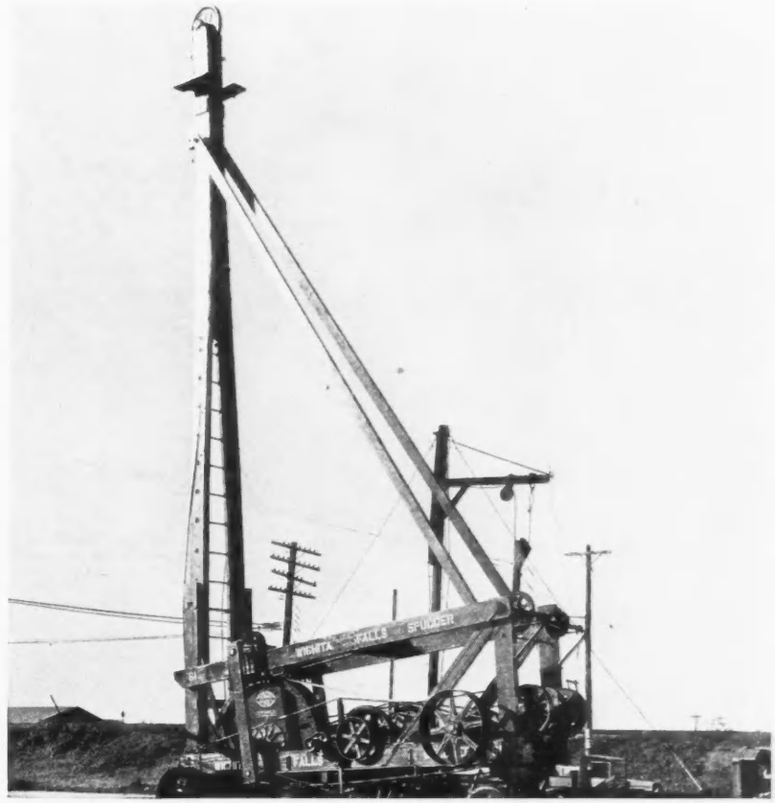

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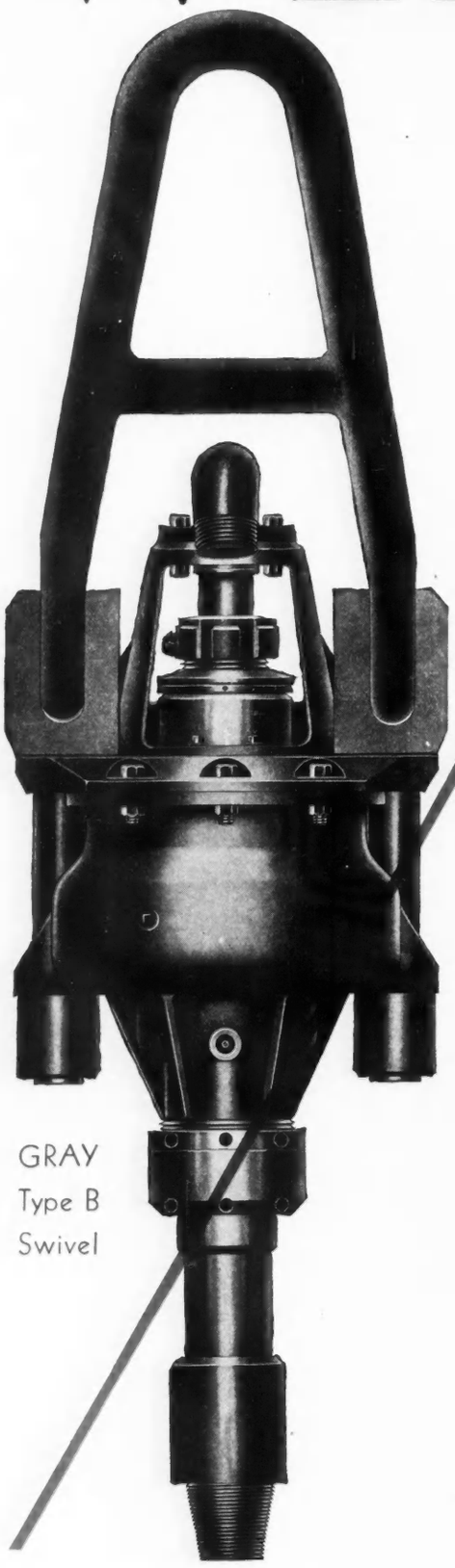

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Russia's Future

PRESTIGE AS OIL PRODUCING NATION MAY NOT CONTINUE DESPITE EFFORT

By M. N. JURIN, Petroleum Engineer
Los Angeles

ONLY a few years ago the Soviet government of Russia was planning a gigantic expansion of crude production, setting as a goal 500 million barrels in 1937. This ambitious plan is abandoned definitely now, after the bitter experience of the last three years, when the Soviet oil output from 160,000,000 barrels in 1931 rose only to 168,000,000 barrels in 1934, despite strenuous efforts of the Soviet Oil Administration to accelerate the production. And evidently the current year is not going to bring any improvement in the situation, as the production for the first eight months is below that of the last year.

Official Russia is frankly alarmed over the petroleum outlook, trying to find the cause of the declining output of this commodity, demand for which is growing fast, due to the extraordinary rise in the industrial activity of the Soviet Union, together with rapid progress in the use of tractors and automobiles. And, of course, the troubled international situation also requires the accumulation of oil stocks for the domestic use.

Baku Output Declines

A fact which makes the Russian oil problem more serious is that the production of the Baku (Azneft) fields has continued to decline. Baku fields have been the major production factor of Russia for more than 50 years, yielding for this period over two billion barrels of crude. In 1901 the Baku oil output had reached 85 million barrels. In the last ten years Baku fields supplied about 60 percent of the total Russian production, and their relative importance was steadily growing until recently, as the other large Russian field—Grozny — experienced a severe slump in output. It was due to the Baku overfulfillment of the production program in 1934, that the Russian total crude production did not register a decline in that year. For this achievement, and also for establishing the records of drilling speeds, the personnel of the Azneft (Baku) Oil Trust has received rewards and marks of distinction from the government in 1934.

Causes of Production Decline

As to the causes of the production decline, it will be of interest to find out what the representatives of the Soviet government have to say in this respect. A very comprehensive discussion of the Soviet oil problem was given recently by Mr. Lomoff, a member of the Soviet oil board. In Mr. Lomoff's opinion, the decline in the Baku production is caused chiefly by the overconfidence and relaxation which spread among the oil men in Baku after the success they achieved in 1934, by setting the new Russian records in the speed of drilling. On the basis of these record speeds it was assumed that in 1935, the average speed of drilling will be in the neighborhood of 302 meters (990 feet) per month, while actually it has averaged only 272 meters (891 feet), approximately. Due to lower average speed than expected in drilling the number of the new completions proved to be only 68 percent of the planned ones. Hence, the deficiency in output, according to Mr. Lomoff.

Among other causes affecting the Soviet oil production unfavorably, Mr. Lomoff mentioned also the shortage of labor supply. In four Baku fields on September 1, 1935, the number of workmen was 2300 men less than required. Besides, the workmen do not settle at the place of work, but shift all the time from one place to another. For instance, in the Stalinneft fields during first eight months of the current year, 5037 workmen left while 3942 new ones were hired; in the Lenneft fields 4465 left and 2043 were hired. Such "fluidity" of labor presents a very important problem for the oil industry. It is quite evident that the quality of work suffers considerably from the lack of proper experience among the shifting workmen.

The number of different types of break-downs, fishing jobs and similar accidents, on the drilling wells, is very large. In 1935, during the first eight months, it reached a total of 1184 in the Baku region alone. Also the number of wells not producing oil, due to lack of mechanical and other help is quite considerable and shows a tendency to grow on August 1, 1935, the number of such wells was 343, and on September 1, it was 349.

Very often the production suffers from lack of necessary oil equipment. For instance, instead of 80

THE author of this article, himself a Russian, concludes with: "Not only is the future expansion of the Russian oil industry dubious, but there is even some doubt as to whether the Soviet Union will be able to keep its petroleum output from declining below the present level."

In a letter accompanying the manuscript, Mr. Jurin wrote: "It looks very much that 1934 marked the high point of the Russian oil industry and that from now on the curve of oil production will point downward."

Considering the subject under discussion, the U. S. S. R., his letter contains another interesting statement, to-wit: "I am trying to give you an impartial view of the situation in Russia."

compressors needed and scheduled to be delivered by the Russian machine works "Boretz" to the Azneft Trust during eight months of the current year, only five have been delivered. The "Azibekov" section of Baku region needs at least 100 compressors. Many wells in this section are producing crude with the aid of gas from the gassing wells, without compressing it mechanically.

Russian made pumps of the rod insert and plunger types are not satisfactory because of the inferior workmanship. Some of these pumps, installed in 1935, lasted only from 20 to 40 days, according to Mr. Lomoff. The parts of the pumping mechanism and sucker rods have sufficient strength only to the depth of 900 meters (2950 feet) while the new wells are being drilled to depths of 2000 meters (6560 feet).

Mr. Lomoff also called attention to the lack of the measuring and controlling instruments in production operations, a condition which entails a considerable degree of guess work.

Depletion of Resources

Undoubtedly, all the faults of the Soviet operated oil industry are important and could be considered as the contributing causes of the inadequate oil output. But, on the other hand, we know that previously, the Soviet oil output had been rising very rapidly, showing from 20 to 30 percent of the annual gain. It is improbable that the efficiency then was higher than now, and therefore we must come to conclusion that the explanation of the production decline by the faults in operation only is not quite sufficient.

We know from the official Soviet sources ("Izvestia," July 29, 1935), that during the first six months of last year—319 wells were completed by Azneft Trust. At this rate Azneft should have completed from January 1, 1934, up to November 1, 1935, not less than 1000 new wells. Since such large number of new wells did not check the decline of output, the only logical conclusion which could be made on the basis of this fact is that Baku fields are on the decline.

Grozny and Other Fields

Other Soviet fields do not give much hope that, in case the Baku production keeps declining, they will compensate it by their respective gains in production.

Grozny, second in its importance among fields in the Soviet Union—suffered a decline from 56,000,000 barrels in 1931 down to 22,000,000 barrels in 1934.

Maikop field, also on the Northern Caucasus, presents a more encouraging outlook, due to a discovery of a new extension with the daily production of about 24,000 barrels.

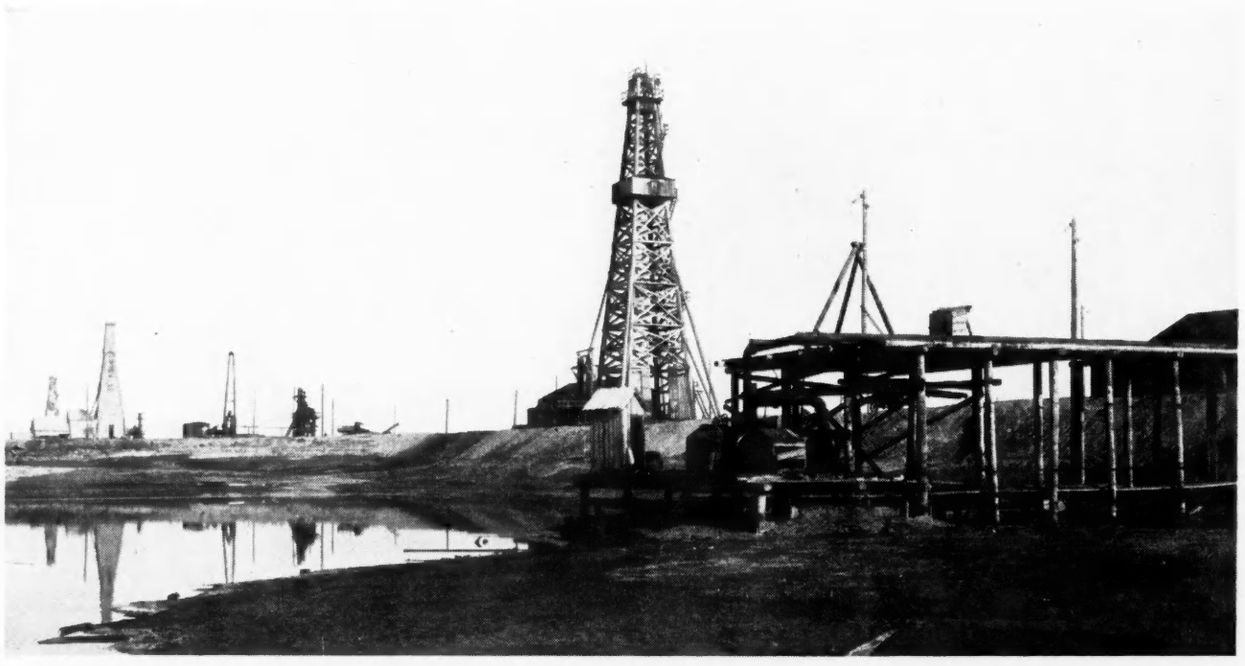
All other fields together have produced in 1934 only 2.4 percent of the Russian total crude production. Among those, the Ishimbaevo field, on the Ural mountains, is developing its crude output very slowly. Two other northern fields—Uchta and Tchusiovaia—do not substantiate at all the high hopes and expectations placed on them a few years ago. So far, they are not producing oil in the commercial quantities.

Oil fields discovered by the Soviet geologists in Middle Asia a number of years ago, the Nefte-Dag, Khau-Dag and Utch-Kizil, also are very slow in developing substantial output, although recently a gusher with 40,000 barrels daily crude output was completed in the Utch-Kizil field.

Thus, the Soviet oil outlook is not very encouraging. Few years ago, the question of whether the Soviet Union will be able to dominate the world's petroleum market, was seriously discussed in the press. Today the situation has changed radically. The Russian petroleum production at present is hardly sufficient to satisfy domestic needs.

Not only is the future expansion of the Russian oil industry dubious today, but there is even some doubt as to whether the Soviet Union will be able to keep its petroleum output from declining below the present level.

A general scene in the Baku District, U. S. S. R.



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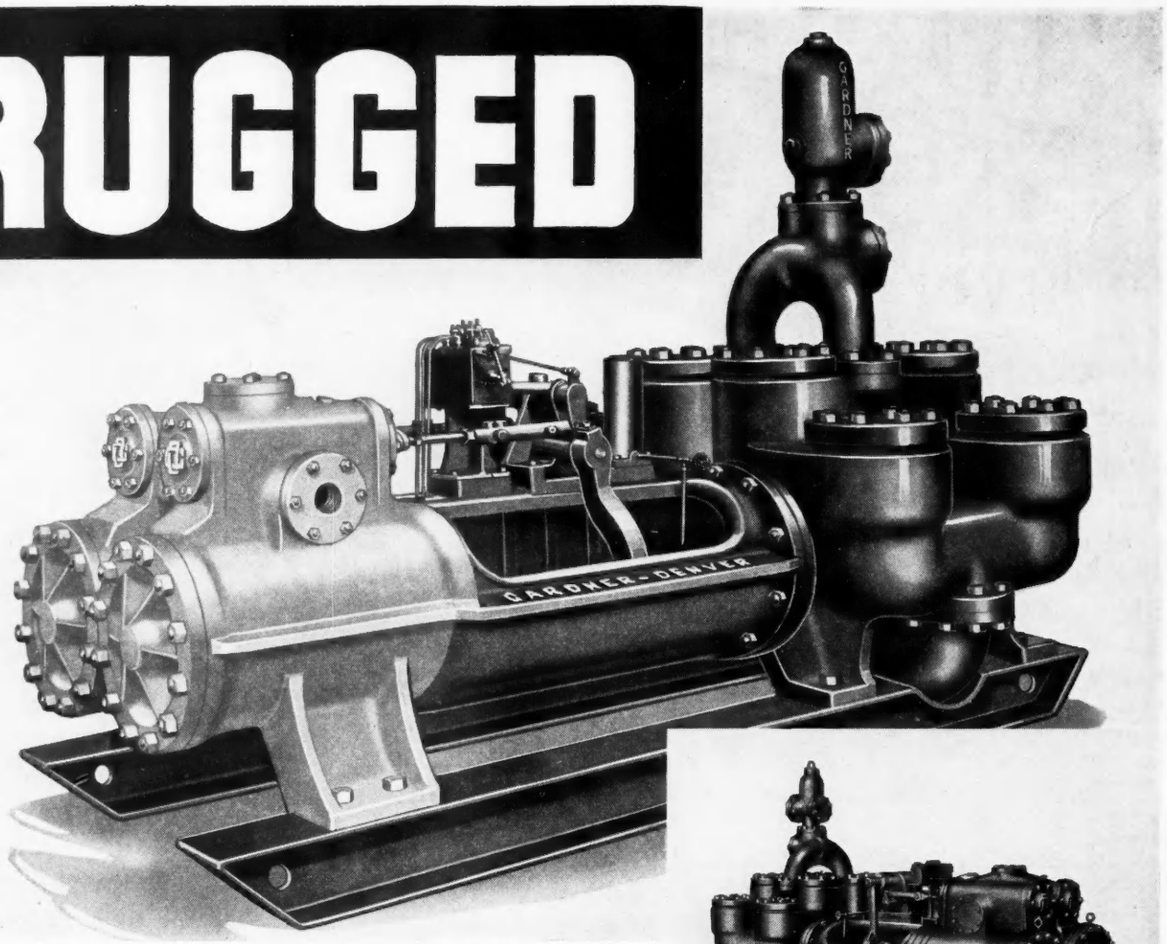

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Evaluation of Rotary-Drilling Muds

By P. H. JONES and E. C. BABSON
Union Oil Company of California
Wilmington, California

THE quality of drilling mud is now generally recognized as being of vital concern in rotary-drilling operations, particularly where deep wells or wells drilled in caving formations are involved. Many operators are of the opinion that mud quality is a dominant factor, influencing the practicability of drilling wells in caving formations and limiting depths to which wells can be drilled. In spite of this situation, there appears to be a dearth of satisfactory methods for evaluating rotary muds, particularly with respect to their performance under operating conditions.

This paper presents testing methods which have been developed in an effort to define and evaluate the properties of drilling muds that are of importance in actual drilling operations. The data presented were obtained in the course of an investigation which is now in progress; and it is hoped that a discussion of the methods of attack used, and some of the results obtained, may stimulate interest and cooperative effort to the end that drilling muds can be developed which will be superior to those now in general use.

For convenience, this report is divided into two parts: the first dealing with the flow characteristics of muds; and the second with the performance of muds when circulated against artificially-prepared formations under conditions simulating those that exist in actual drilling operations.

Flow Characteristics of Drilling Muds

The flow characteristics of muds are of importance in that they influence not only the suspension and release of cuttings from the mud, but also the circulation rates attainable.

It is generally assumed that rotary muds behave as plastics when subjected to shearing stresses. The accepted theory of plastic flow, which has been developed largely by Bingham,[1] states that the stress required to shear such a material is a straight-line function of the velocity gradient. The intercept of this line on the shearing-stress axis is known as the yield point; while its slope, the counterpart of viscosity in fluids, will, for lack of a better term, be designated as the immobility[2] (the reciprocal of Bingham's "mobility"). Once the yield point and immobility have been determined for a given mud, it is possible to calculate the apparent viscosity at any velocity gradient and to solve any simple flow problem, such as flow through tubes or annular spaces.

If the plastic character of rotary muds were the only complication involved in their flow characteristics, the problem would be comparatively simple; but the situation is complicated by changes in the flow characteristics producedy by agitation and standing. These changes are often caused by the thixotropic or gelling properties of muds, and thus it is found that the apparent viscosity of some muds varies not only with the rate of shear, but also with the previous history of the mud.[3] Furthermore, it is evident that, with thixotropic muds, the dynamic yield point determined by the straight-line relation between velocity gradient and shearing stress will not be the same as the yield point determined directly under static conditions after the mud has stood quiescent for an appreciable period of time. For convenience, in this report it is assumed that the rate at which the static yield point of a mud in-

APPARATUS used in studying the flow characteristics of muds and the performance of muds when circulated against artificial formations are described. The apparatus used to study flow characteristics is an adaptation of MacMichael type rotary viscosimeter. The results of a number of tests with this instrument are shown and discussed.

The results of tests in the performance testing apparatus show that in most cases neither the pressure differential between the circulating mud and formations nor the apparent viscosity of the mud is of great importance in determining the rate at which mud will lose water to formations or in determining the thickness of mud cakes deposited. Temperature, however, has a marked effect; the higher the temperature, the more rapid will be the loss of water from mud to formations. A single test in the performance testing apparatus will serve to evaluate a mud with sufficient precision to make the results of practical value in selecting and controlling muds for use in difficult drilling projects.

This paper was presented at the Sixteenth Annual meeting of the American Petroleum Institute, November 13, 1935, Los Angeles. The statements and opinions expressed are those of the authors, and should not be construed as an official action or opinion of the Institute or of this magazine.

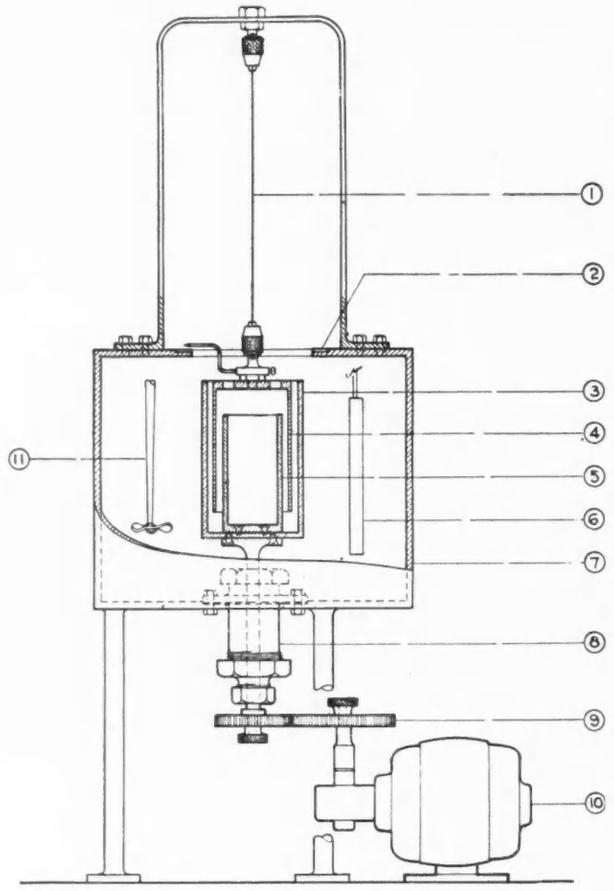

FIGURE 1

Rotary Consistometer

1. Suspension wire.
2. Protractor scale.
3. External member of rotating cup.
4. Suspended sleeve.
5. Internal member of rotating cup.
6. Immersion heater.
7. Oil bath.
8. Packing gland and bearing.
9. Change gears.
10. Synchronous motor.
11. Agitator.

creases on standing quiescent is a measure of its thixotropic properties; i.e., a mud having weak thixotropic properties is one that exhibits a very small increase in static yield point on standing, whereas the static yield point of a strongly-thixotropic mud will increase rapidly on standing.

Instruments Used to Measure Flow Characteristics

In the light of the preceding considerations and the practical problems involved in mud viscosimetry, it is desirable that an instrument for determining the flow characteristics of muds have the following characeristics:

1. The instrument should be designed in such a manner that the conditions of flow can be formulated mathematically. Since there are at present no standard plastics, the instrument must be calibrated with fluids, and the calibration carried over to plastics by mathematical development.

2. It should be constructed in such a manner that the velocity gradient can be altered within wide limits, so that both the yield point and immobility of a mud can be evaluated.

3. The instrument should be so designed that muds can be sheared at constant rates for long periods of time, and that instantaneous readings can be taken during the process.

4. It should be possible to control and vary the temperature of the mud under test.

5. The passages should be of such size that they will not become plugged by sand grains or other inclusions in the mud.

With these criteria in mind, it is possible to evaluate the various types of viscosimeters from the standpoint of their adequacy for mud testing. The most common type of viscosimeter is, of course, the capillary-tube instrument. It is possible with a series of tubes to satisfy all the requirements except (3) above, and while this defect renders the capillary tube almost useless for studying thixotropic muds, this type of instrument is of distinct value in the study of non-thixotropic muds.

Falling-ball and oscillating-disk viscosimeters require a complex mathematical treatment, and furthermore they fail to satisfy requirement (3) outlined above.

The MacMichael-type viscosimeter or consistometer is for the most part well adapted to the study of rotary muds. It fulfills all the requirements stated above, and is especially adaptable to the study of thixotropic muds—because the muds can be sheared at constant rates for long periods of time, and instantaneous readings can be taken during the process. Furthermore, the interpretation of results obtained with this type of instrument is comparatively simple. Because of these considerations, a rotary consistometer of the MacMichael type was developed for use in this investigation.

This apparatus, which is illustrated in Figure 1, consists essentially of a rotating cup, 3, and a sleeve, 4, suspended by a steel wire, 1, from a fixed support. The cup is surrounded by an oil bath which can be controlled at any desired temperature. In order to insure continuous shearing of all the mud in contact with the sleeve, a smaller hollow cylinder, 5, is fixed concentrically to the rotating cup. In making a test, the mud is poured into the annular space in the rotating cup, the excess spilling over into the interior of the hollow cylinder, 5. The cup is then rotated by means of a reversible synchronous motor, 10, and a set of gears, 9. The suspended sleeve rotates with the cup until the restoring moment in the wire is equal to the moment of the viscous (or plastic) drag on the sleeve. Since the restoring moment of the wire is proportional to the degree of twist in the wire, the moment on the sleeve is measured by a pointer attached to the top of the sleeve, the position of which can be determined from the protractor, 2. The two variables on this instrument are, therefore, the angular velocity of the cup and the deflection of the pointer. The angular velocity can be varied from 25.0 revolutions per minute to 278.6 revolutions per minute by changing gears. There are five high-carbon steel suspension wires ranging from 18 to 24 gage, *B. & S.*; and the sleeve is suspended in such a manner that the length of wire between chucks is 10 inch. Because of the plastic nature of muds, the point of zero deflection cannot be determined under static conditions, but must be obtained by reversing the direction of rotation of the cup.

Calibration of Modified Rotary Consistometer

The general equation[4] for plastic flow in the MacMichael viscosimeter covers instruments with a single annulus. This equation, however, can be

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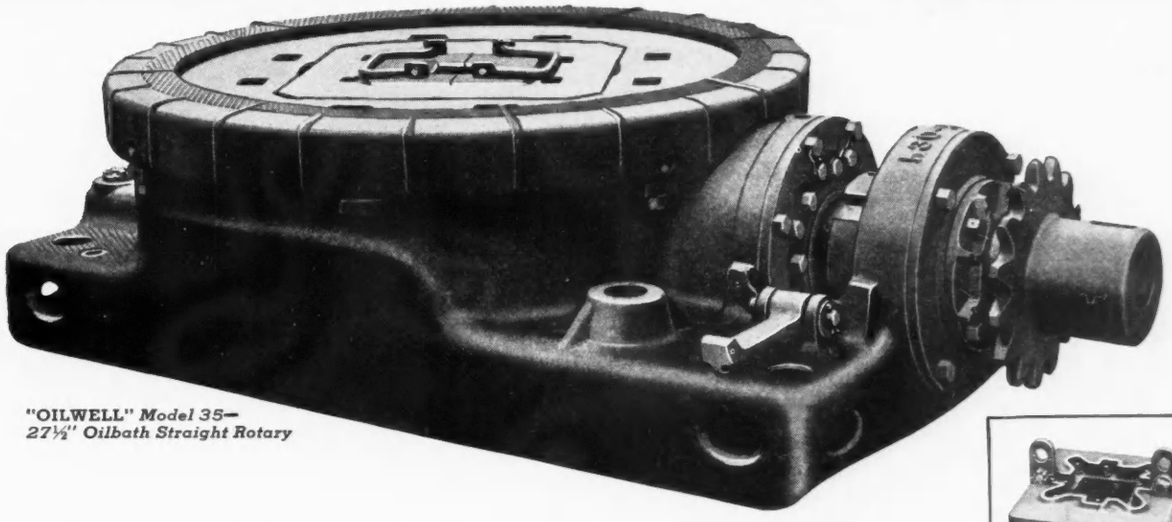

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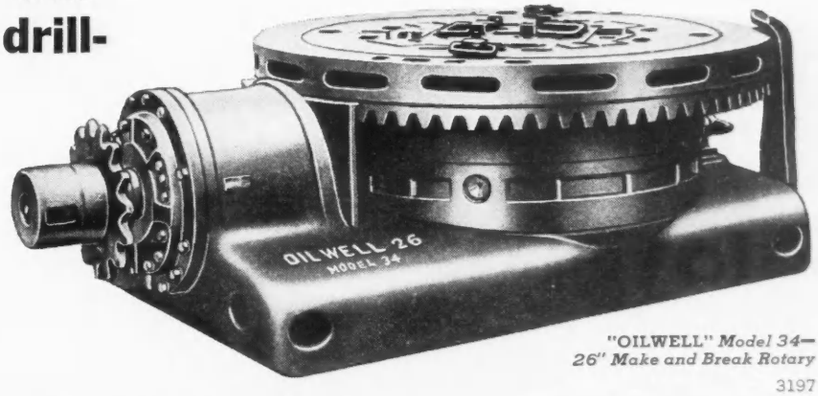

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adapted to the instrument described above, and takes the form:

$$M = C\theta = 4\pi L\left[\left(\frac{R_1^2R_2^2}{R_1^2-R_2^2}\log_e\frac{R_1}{R_2}+\frac{R_3^2R_4^2}{R_3^2-R_4^2}\log_e\frac{R_3}{R_4}\right)A+\left(\frac{R_1^2R_2^2}{R_1^2-R_2^2}+\frac{R_3^2R_4^2}{R_3^2-R_4^2}\right)\frac{\pi BN}{30}\right] \quad (1)$$

where:

C = a constant depending on the properties of the suspending wire, and is equal to the moment in dyne-centimeters per 1 deg. of deflection in the wire.
θ = deflection, in degrees.
R_1 = radius of inside surface of outer member of rotating cup (4.51 cm.).
R_2 = radius of outside surface of suspended sleeve (3.79 cm.).
R_3 = radius of inside surface of suspended sleeve (3.65 cm.).
R_4 = radius of outside surface of inner member of rotating cup (2.94 cm.).
L = immersion of suspended sleeve (9.45 cm.).
N = angular velocity of rotating cup, r.p.m.
A = yield point of mud, in dynes per sq. cm.
B = immobility, in poises.
M = shearing moment, in dyne-centimeters.

The consistometer used in this work was calibrated with a mineral oil of known viscosity, and a constant (K) was obtained for each wire by substitution in the equation:

$$U = \frac{K\theta}{N} \quad (2)$$

where U = absolute viscosity, in poises.

By integrating Newton's equation[5] for the concentric cylinder apparatus, an expression for C can be found which contains only K and the dimensions of the annular spaces. This value can be substituted in equation (1) given hereinbefore, and a practical equation obtained for use in interpreting results:

$$K\theta = \left[\frac{\frac{R_1^2R_2^2}{R_1^2-R_2^2}\log_e\frac{R_1}{R_2}+\frac{R_3^2R_4^2}{R_3^2-R_4^2}\log_e\frac{R_3}{R_4}}{\frac{\pi}{30}\left(\frac{R_1^2R_2^2}{R_1^2-R_2^2}+\frac{R_3^2R_4^2}{R_3^2-R_4^2}\right)}\right]A+BN \quad (3)$$

The term enclosed in the brackets contains only constants and the radial dimensions of the instrument. Since the dimensions are constant, the entire bracket can be considered as a constant typical of the construction of the sleeve and cup. If this constant be called D, then

$$K\theta = DA + BN \quad (4)$$

This is the equation of a straight line in terms of θ and N. If the line is extrapolated back to zero angular velocity ($N = 0$), an intercept θ_0 is obtained on the deflection axis. Then:

$$A = \frac{K\theta_0}{D} \quad (5)$$

where A is the yield point in dynes per sq. cm.

Differentiating equation (4) gives:

$$B = \frac{Kd\theta}{dN} = K\frac{\theta-\theta_0}{N} \quad (6)$$

where B is the immobility in poises, and θ and N are any corresponding values.

In order to obtain an independent check on the accuracy of the calibration and on the magnitude of the errors introduced by end effects and changes in level caused by centrifugal force, the average torsional modulus of the wires was calculated from the calibration constants (K), and a value of 10,630,000 pounds per square inch was obtained. The most recent work on the torsional moduli of wire has been done by Ludewig,[6] who reports a value of 10,800,000 pounds per square inch for carbon-steel wires. Although such close agreement is probably fortuitous, the fact that agreement was obtained indicates that the theoretical mathematical treatment of flow in this instrument is in reasonable accord with the actual flow conditions.

Results of Consistometer Tests

The instrument shown in Figure 1, and discussed previously, has been used to perform a large number of tests on muds of widely-varying properties and origins, and some interesting phenomena have been encountered. While it is beyond the scope of this paper to present a coordinated summary of all the results obtained with the consistometer, a few examples of the possibilities of such an investigation will be given.

It has been mentioned above that the flow characteristics of muds are a function of the previous history of the mud, and are often altered greatly by agitation or standing. If the changes involved are of a reversible thixotropic nature, it is possible, through careful control of experimental procedure, to obtain results which are reproducible and significant. Quite often, however, the changes which occur when the mud is permitted to stand quiescent, or is subjected to violent agitation, appear to have no definite relation to thixotropy. With some muds, a gradual irreversible increase in yield point and immobility will occur if the muds are allowed to stand quiescent for a few weeks in tightly-stoppered bottles. Although it seems likely that this phenomenon is some function of the mixing procedure used in preparing the mud, it has been encountered in testing samples

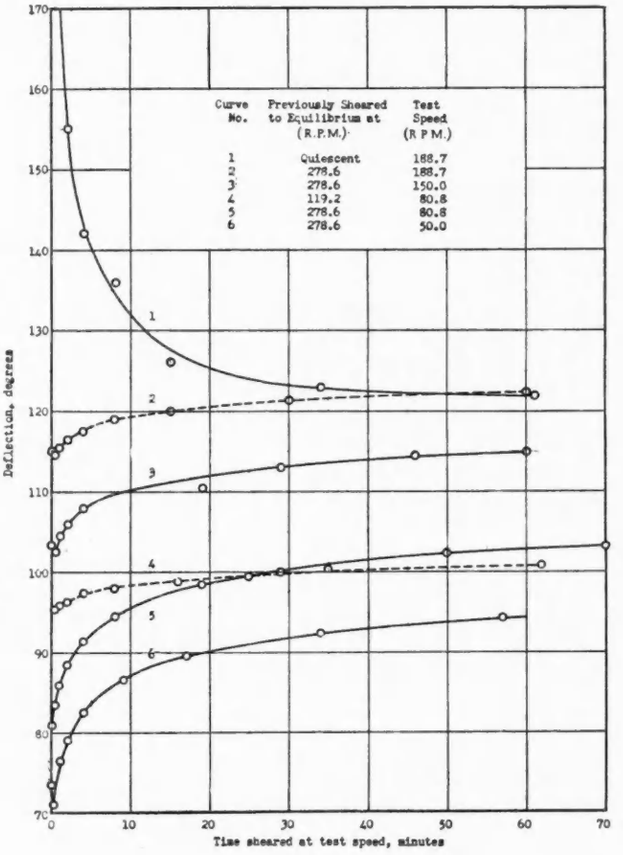
Curve No. | Previously Sheared to Equilibrium at (R.P.M.) | Test Speed (R.P.M.)
1 | Quiescent | 188.7
2 | 278.6 | 188.7
3 | 278.6 | 150.0
4 | 119.2 | 80.8
5 | 278.6 | 80.8
6 | 278.6 | 50.0
Deflection, degrees
Time sheared at test speed, minutes

FIGURE 2
(All tests at 80°F.)
Behavior of Thixotropic Mud in Rotary Consistometer.

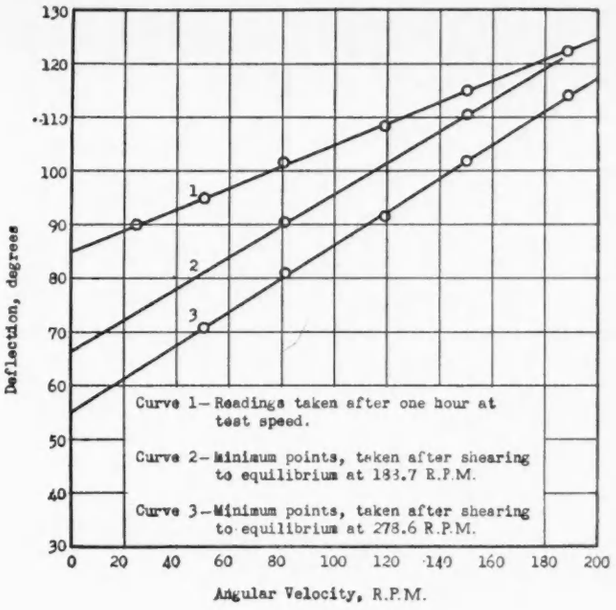
Deflection, degrees
Angular Velocity, R.P.M.
Curve 1—Readings taken after one hour at test speed.
Curve 2—Minimum points, taken after shearing to equilibrium at 188.7 R.P.M.
Curve 3—Minimum points, taken after shearing to equilibrium at 278.6 R.P.M.

FIGURE 3
(All tests at 80°F.)
Summary of Flow Characteristics of Thixotropic Mud.

which were circulated through a jet against a steel surface for long periods of time. With other muds, the yield point may decrease with long standing, but frequently it can be restored to its original value by prolonged agitation. This type of change, which is the reverse of thixotropy, occurs, for the most part, in muds which display feeble thixotropic properties. If these same muds are tested in the rotary consistometer for several minutes, it is found that the yield point also decreases while the muds are being sheared in streamline flow. While violent agitation prior to testing often produces an increase in yield point, it seems to have little effect on the changes which occur on shearing in the consistometer. No satisfactory explanation for this behavior has been evolved.

With highly-thixotropic muds, it is evident that reproducible results cannot be obtained unless the sample to be tested is brought into some standard and reproducible state of agitation. Fortunately, this can be accomplished readily by using the rotary consistometer as the means of agitation. If, for instance, the sample is poured into the cup and allowed to stand for some hours, the initial torque upon starting the consistometer is extremely high. If the consistometer is run at a constant speed, however, the torque decreases, as shown by curve 1 of Figure 2, until after an hour or more of shearing the rate of decrease of torque with time is extremely slow and a substantial equilibrium is reached. At this point the sample is in a condition which can be reproduced at will, because it represents an equilibrium between gelling and disrupting forces at the particular angular velocity used. That this equilibrium is typical of the angular velocity at which the test is made and independent of the previous history, is shown by curve 2 in Figure 2. In this case the sample was previously sheared to equilibrium at a higher angular velocity and immediately tested at the speed used in obtaining curve 1. The torque now increases with time instead of decreasing; yet, after an hour's shearing, curve 2 practically coincides with curve 1.

After the mud has been sheared in this manner to a standard condition, the effect of shearing at other rates can be studied. Curves 2, 3, 5, and 6 in Figure 2 show the behavior of this sample after shearing to equilibrium at 278.6 revolutions per minute. Upon changing the angular velocity from 278.6 revolutions per minute to a slower speed, the deflection first decreases slightly, due to the breaking down of a small amount of gel structure formed during the quiescent period required for changing gears, and then increases, approaching an equilibrium value typical of the test speed. The minimum points in these curves are considered to represent the flow characteristics of the sample after shearing to equilibrium at the previous speed, and are found to be markedly affected by the previous history. An example of the effect of shearing to equilibrium at varying angular velocities prior to testing can be seen by comparing curves 4 and 5 in Figure 2. The flow characteristics of this sample are summarized in Figure 3, in which curves 2 and 3 represent the flow characteristics in two differing states of agitation (minimum points taken after shearing to equilibrium at two different angular velocities). The data represented by curve 2, which covers the flow characteristics of this mud after shearing to equilibrium at 188.7 revolutions per minute, indicate that its immobility is 21.1 centipoises and that its yield point is 26.4 dynes per square centimeter. On the other hand, the data from curve 3, which covers the flow characteristics of this mud after shearing to equilibrium at 278.6 revolutions per minute, indicate that the immobility is 22.5 centi-

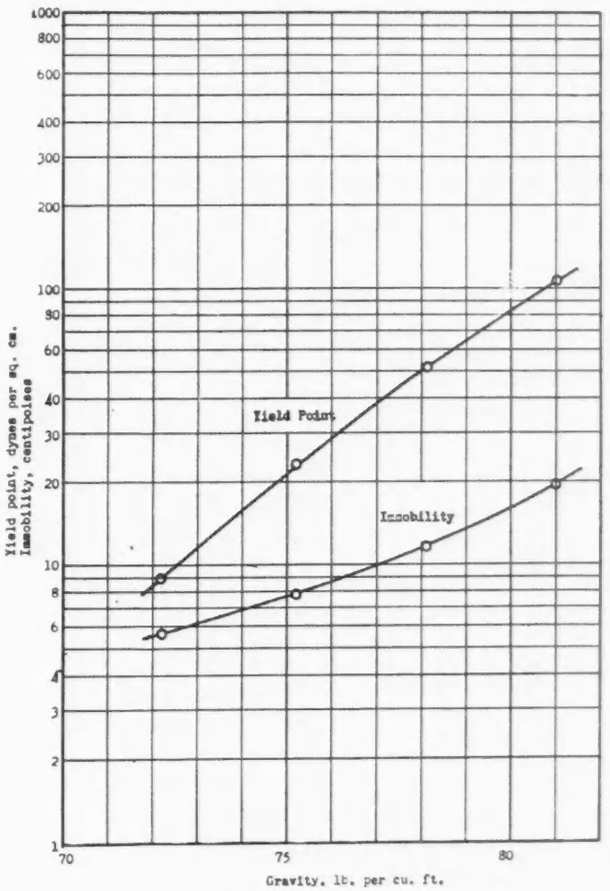

FIGURE 4
(All tests at 80°F.)
Relation Between Gravity and Flow Characteristics of a Non-thixotropic Mud.

poises and that the yield point is 21.9 dynes per square centimeter. Curve 1 represents the locus of the equilibrium points at the various speeds, and it must be emphasized that each point on this curve represents a different state of agitation of the sample and that, therefore, the concepts of yield point and immobility cannot be applied in this line. It is apparent from the above data that the flow characteristics of a thixotropic mud are governed by both the immediate prior history of the mud and the flow conditions actually prevailing at any given time.

Many of the muds used in California drilling practice are so feebly thixotropic that their flow characteristics can be determined without resorting to the elaborate procedure outlined above. Some data pertaining to this class of muds are shown in Figure 4. In this figure, the yield point and immobility are plotted against the gravity which, in turn, is a linear function of the volume percent solids. The samples tested were prepared by diluting portions of a very thick mud with water. After preparation, the samples were allowed to stand for six weeks before testing. These curves are, in general, similar to those obtained on other muds of this general class, and indicate that the immobility and yield point are not linear functions of concentration.

Conclusions: Flow Characteristics of Muds

The results reported are of necessity fragmentary, but they illustrate the nature of some of the factors which determine the flow characteristics of muds. It is believed that the methods of attack outlined above, although difficult and time-consuming, offer distinct promise from the standpoint of placing mud viscosimetry on a quantitative basis. The field available for investigation is large, and it is hoped that the data presented may stimulate interest in this line of attack.

Evaluation of Performance Characteristics of Muds

One of the most important functions of drilling mud is to deposit a mud cake on the walls of the hole which will prevent the loss of water to the formations through which the well is drilled. Many formations, which have great structural strength under the conditions prevailing before the entrance of the drill, will lose their strength when saturated with water. Thus, if the mud wall permits the entrance of large quantities of water into such formations, there is grave danger that caving will occur—and a serious fishing job, or even loss of the hole, may result. The deposition of a very thick or hard mud cake on the wall of a hole may interfere seriously with the entrance or withdrawal of the bit. Thus the ideal mud should permit very little loss of water to formation, and should deposit only a relatively-thin mud cake on the walls of the hole.

It is probable that considerable experimental work has been done to determine the properties of muds in laying down mud cakes and in preventing the loss of water to formation, but very little information covering such work has been published; and, as far as is known, no data have been presented covering the deposition of mud cakes and the loss of water to formation while circulating muds against formations under the conditions of temperature and pressure encountered in deep wells. It was believed that data of this character were essential to the successful prosecution of a comprehensive investigation directed towards the improvement of muds and, therefore, a performance testing apparatus (which is illustrated in Figure 5) was constructed to provide the data desired. In operating this equipment, a sample of the mud to be tested is introduced into reservoir, 12, from which it is forced by air pressure into cylinder, 8. This cylinder consists of a thick-walled steel tube, 3 inches in inside diameter and about 30 inches long, with the inner surface ground and polished. The outside of the cylinder is electrically-heated and covered with a thick layer of 85-percent magnesia insulation so that the contents of the cylinder can be maintained at any desired temperature. The contents of the cylinder can be circulated by means of rubber piston, 9, through cell, 3, which holds an artificially-prepared formation. The stroke of the piston is approximately 24 inches, and the rod driving this piston extends through stuffing boxes at each end of the cylinder so that the movement of the piston involves no change in volume in the system. The piston can be forced to reciprocate continuously and automatically through the cylinder at a rate of one complete cycle in three minutes by means of a reduction drive from an electric motor and suitable reversing and limit switches, which are not shown in the illustration. The chamber in cell, 3, is slightly tapered, being approximately 5⅜ inches deep to the shoulder, one inch in diameter just above the shoulder, and 1⅛ inches in diameter at the top. The cell can be assembled in an oil bath, 2, which can be maintained at any desired temperature by means of immersion heaters and a stirring device.

In making a performance test, the perforated plug, 6, is placed in the cell and a short sleeve, 5, of brass

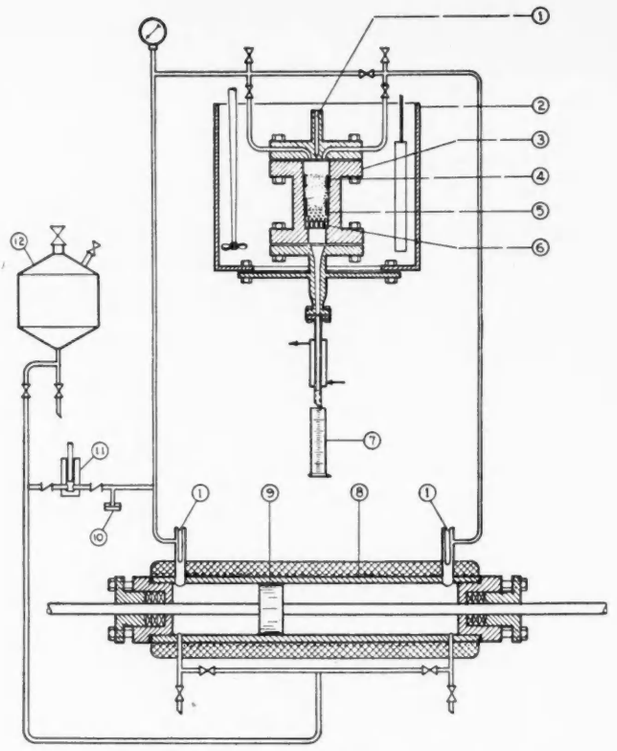

FIGURE 5

Performance Testing Apparatus.

1. Thermometer wells.
2. Oil bath.
3. Cell or formation holder.
4. Filter-paper liner.
5. Shim metal sleeve.
6. Perforated plug.
7. Graduated cylinder.
8. High-pressure cylinder.
9. Piston.
10. Safety disk.
11. Pump.
12. Mud reservoir.

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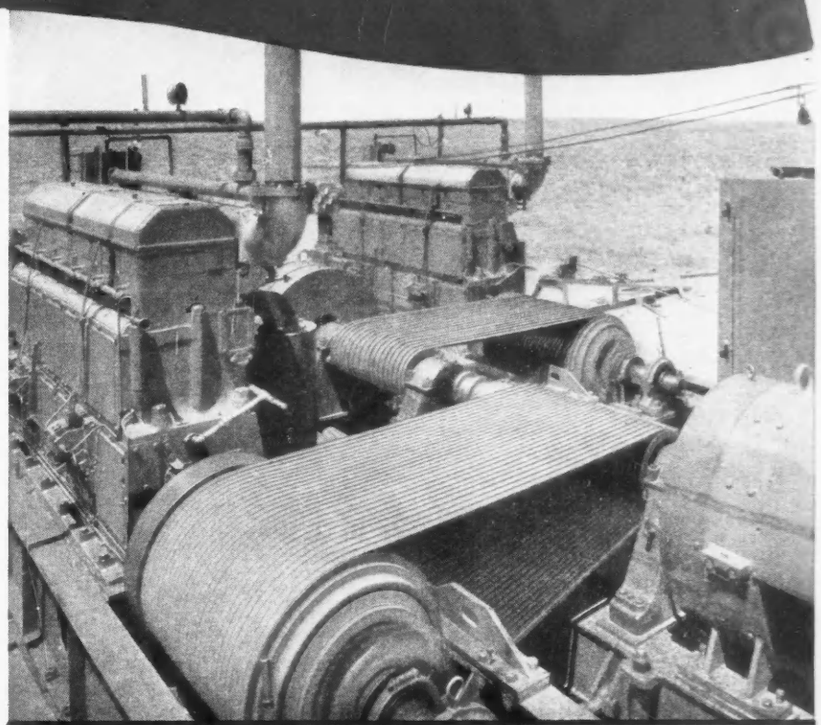

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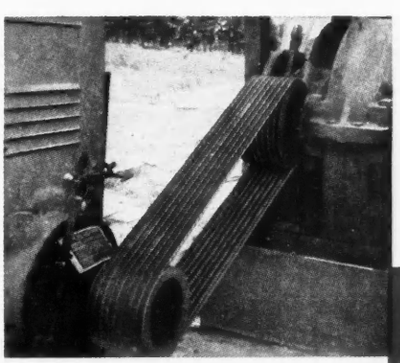

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shim metal about 1½ inches long, which is slotted longitudinally, is inserted as illustrated. It has been found that this sleeve greatly facilitates the removal of the artificial formation after the completion of a test. A layer of Ottawa sand about ½-inch deep is poured into the cell and leveled. Forty grams of the sand used in making the formation is then poured into the cell on top of the Ottawa sand, and a cement testing press is used to apply a pressure of 12,000 pounds per square inch on the surface of the sand through a brass plunger that fits in the cell loosely. After the upper surface of the compacted sand is scraped to remove crushed grains, an additional 30 grams of sand is poured into the cell and pressed and scraped as before. This procedure is repeated using 20-gram increments of sand until the cell is filled completely. In order to avoid high permeability at the interface between the formation and the cell wall, the upper 2½ inches of the cell is lined with a piece of filter paper.

In most of the tests made to date, the artificial formations were prepared from sand obtained by disintegrating cores from the Temblor Zone at Kettleman Hills. The effective porosities of the artificial formations made from this sand are approximately 22.5 percent, and the screen analysis of the sand recovered from a typical artificial formation is shown in Table 1:

TABLE 1

Screen Analysis—Typical Artificial Formation

Standard Screen Size	Per Cent by Weight of Original Sand
Held on 48 mesh	15
Through 48 mesh and held on 100 mesh	35
Through 100 mesh and held on 150 mesh	12
Through 150 mesh and held on 200 mesh	11
Through 200 mesh	27
Total	100

After the artificial formation or core has been prepared, it is saturated with water by passing about 100 millimeters downward through the core at a pressure of approximately 4000 pounds per square inch by means of a small hand-operated plunger pump. The upper one-inch of sand and filter-paper liner is scraped out of the cell, which is then assembled in the apparatus as shown in Figure 5. The cylinder is filled with the mud to be tested, the operation of the piston is started, and the heating circuits are closed—circulation being maintained through the by-pass above the cell until the mud being circulated and the oil bath have attained the desired temperature. Circulation is then momentarily stopped, and a small quantity of mud from the reservoir is passed through the upper portion of the cell and out one of the vents to clear the system of air. The reservoir is isolated from the lower connections into the cylinder, the by-pass line is closed, and circulation through the cell proper is started. Mud is then pumped from the reservoir by means of hand-operated pump, 11, into the mud being circulated in order to maintain the pressure in the circulating system at any desired point. It is customary to close one of the valves in the circulating system at least twice during each test. If a shearing pin in the mechanical linkage driving the piston is broken, it is assumed that satisfactory circulation is being obtained. If this pin does not break immediately, it is assumed that the circulation is poor—and the test is abandoned.

While the mud is being circulated continuously, a mud cake is built up on the upper surface of the formation and water is forced out of the mud through the cake thus formed into the artificial formation. This displaces water previously used to saturate the formation which, in turn, is collected in graduated cylinder, 7, after passing through a cooling coil which prevents the loss of water by evaporation when tests are made at elevated temperatures. The volume of water appearing in the graduated cylinder is observed after the expiration of five minutes, 15 minutes, and at 15 minute intervals thereafter. Experience has shown that, at the end of about two hours, the rate at which water is discharged through the formation has attained a substantially-constant value, and that a mud cake of measurable proportions has been deposited on the upper surface of the formation. A test period of two hours has, therefore, been established as standard. At the expiration of this period, the cell assembly is taken apart, and the artificial formation with the mud cake on its upper surface is pressed upward out of the cell. It is then a simple matter to determine the nature and thickness of the mud cake.

When a test was conducted at a temperature of 200°F. and at a pressure of 4000 pounds per square inch while circulating water only, the rate of discharge was found to be about 2000 millimeters per hour. With commercial muds, water rates during the last 30 minutes of a test period varied from about two millimeters per hour to over 75 millimeters per hour, and the total water appearing during a two-hour test has varied from less than eight millimeters to over 170 millimeters. Since loss of water from the mud is accompanied by the deposition of appreciable quantities of solids in the mud cake, and since the circulating system holds approximately 3000 milli-

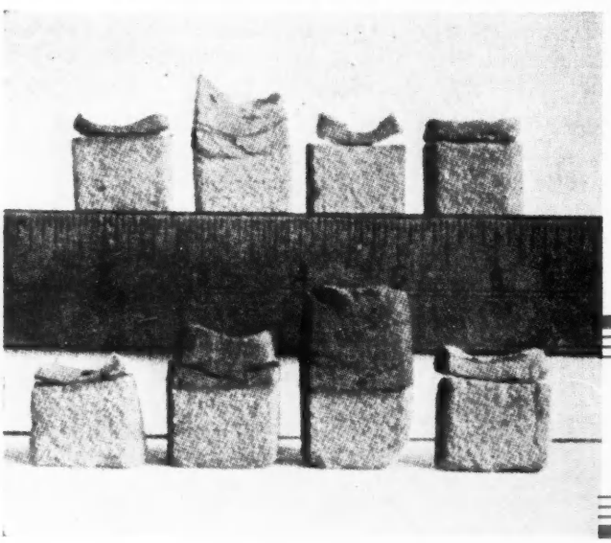
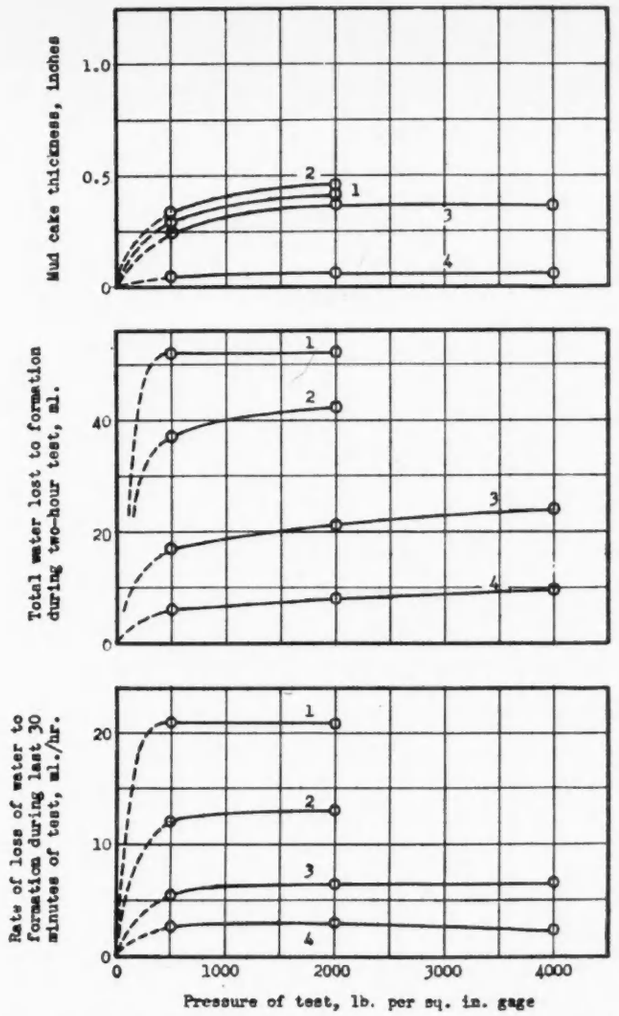


FIGURE 6

Typical Mud Cakes Deposited on Artificial Formations.



Curve No.	Gravity of Mud (Lb. Per Cu. Ft.)	Thixotropic Properties of Muds	Temperature of Tests (Deg. F)
1	80.7	Weak	200
2	76.3	Moderately-strong	200
3	80.3	Moderately-strong	85
4	72.9	Strong	85

FIGURE 7

Effects of Pressure on Performance Characteristics of Muds.

meters of mud, no significant changes in mud quality occur as a result of the removal of water from the mud being circulated during a test.

Mud cakes have varied from almost immeasurably-thin deposits to cakes over ¾-inch in thickness. The general nature of these mud cakes after drying is illustrated in Figure 6. It will be observed that there is no apparent penetration of mud into the formations, and in no case has a penetration of more than about 1/16-inch been observed.

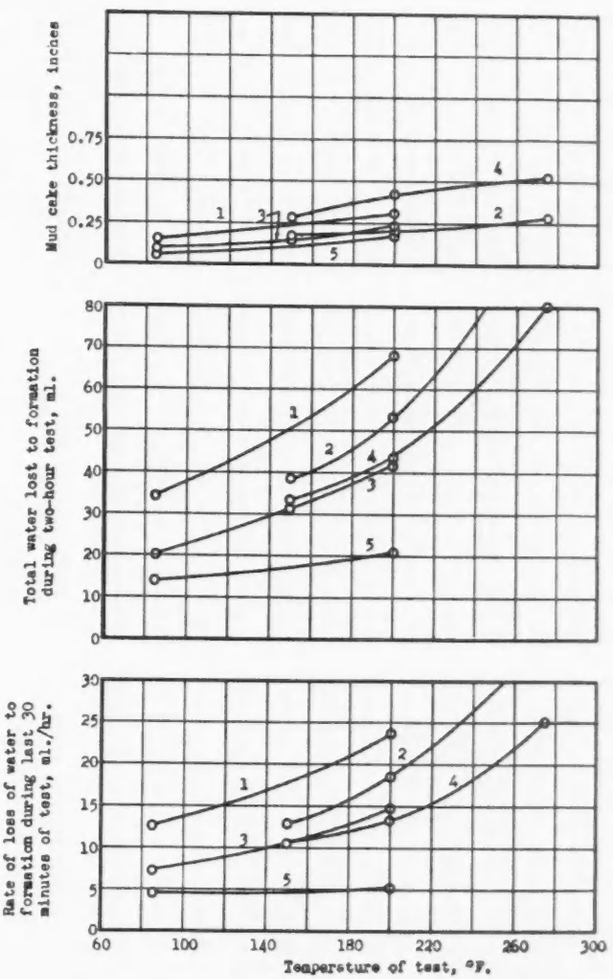
Effects of Pressure on Performance Characteristics of Muds

When this investigation was started, it was thought that the pressure differential between a formation and the mud in circulation would influence the rate at which the mud lost water to the formation, and a series of tests using muds of widely-varying properties and origins was made to investigate this point quantitatively.

The results of a number of these tests are presented graphically in Figure 7. Curve 1 shows the results of tests on a weekly-thixotropic mud; curves 2 and 3 on moderately-thixotropic muds; and curve 4 on a strongly-thixotropic mud. It is apparent from these data that, regardless of the nature of the mud used or the temperature of the tests, variations in pressure above 500 pounds per square inch have very little effect on the rate at which water is forced out of the mud into the formation or on the thickness of the mud cake deposited.

Effects of Temperature on Performance Characteristics of Muds

A series of tests somewhat similar to those described above was made to determine the effects of temperature on the performance characteristics of muds. Data covering these tests are presented graphically in Figure 8. The muds used in the tests covered by curves 1 and 3 had weak thixotropic properties; those used in the tests covered by curves 2 and 4 moderately-strong thixotropic



Curve No.	Gravity of Mud (Lb. Per Cu. Ft.)	Thixotropic Properties of Muds	Pressure of Tests (Lb. Per Sq. In.)
1	76.8	Weak	4000
2	72.5	Moderately-strong	2000
3	73.8	Weak	4000
4	76.3	Moderately-strong	2000
5	75.1	Strong	4000

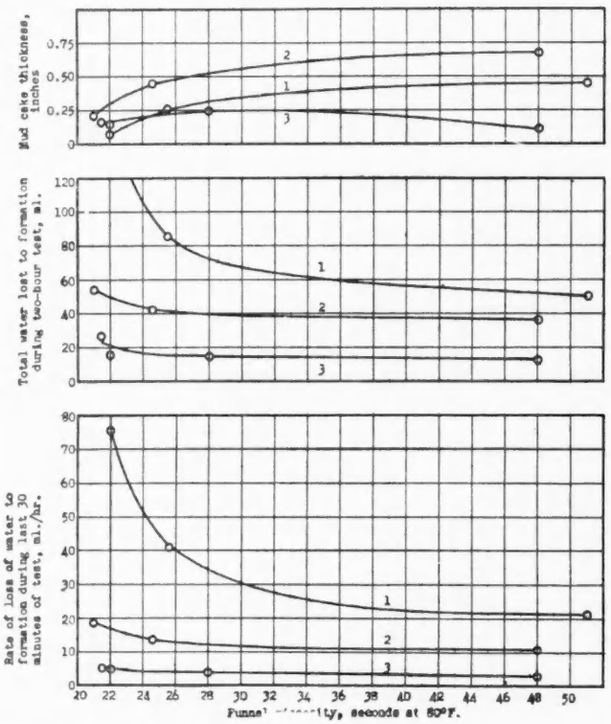
FIGURE 8

Effects of Temperature on Performance Characteristics of Muds.

properties; and that used in the tests covered by curve 5 strong thixotropic properties.

The results covering the total quantity of water recovered while operating at a temperature of 275°F. probably are subject to some error. Unquestionably, part of the formation under the mud cake was exposed to substantially atmospheric pressure; and, under the temperature conditions prevailing, some of the water used to saturate the formations before testing was thus driven out of the formations as vapor, and ultimately condensed and measured as water lost from the mud. However, the data covering the loss of water during the last 30 minutes of the test are considered reliable, and the general nature of all the curves indicates that, regardless of the pressure applied or the nature of the mud involved, both the loss of water to formation and mud-cake thickness increase materially with an increase in temperature. It seems reasonable to assume that this phenomenon is a factor of importance which adds to the difficulties involved in drilling deep wells in which high temperatures are usually encountered.

Several tests have been made in an effort to determine the effects of long exposure to high temperature on the performance characteristics of muds. In some cases no appreciable changes in performance characteristics occurred after the mud was held at a temperature of 212°F. for 48 hours, whereas in other cases a large increase in loss of water to formation accompanied by a decrease in mud-cake thickness was observed. Definite conclusions cannot be drawn because of insufficient data, but results so far obtained indicate that the muds with good initial-performance characteristics usually stand up better on long exposure to high temperature than the muds with poor initial-performance characteristics.



Curve No.	Thixotropic Properties of Muds
1	Weak
2	Moderately-Strong
3	Strong

FIGURE 9

(All tests made at 200°F. and under a pressure of 2000 lbs. per square inch, gage.)
Effects of Apparent Viscosity on Performance Characteristics of Muds.

Effects of Apparent Viscosity of Mud on Performance Characteristics

The funnel viscosimeter is quite generally used in field operations for the determination of the apparent viscosity of mud. Although the results obtained with this instrument are purely empirical, it is convenient to use —and the results obtained with it are quite generally understood. For these reasons this instrument was used in determining the relation between the performance characteristics of muds and their apparent viscosities.

The results of several tests covering this relationship are shown graphically in Figure 9. These tests were all made at a temperature of 200°F. and at a pressure of 2000 pounds per square inch gage. The mud used in the tests represented by curve 1 had very weak thixotropic properties; that used to obtain curve 2 had moderately-strong thixotropic properties; and the mud used for the tests represented by curve 3 had strong thixotropic properties. The results indicate that, under the test conditions prevailing, the loss of water from muds having strong or moderately-strong thixotropic properties is not influenced materially by variations in apparent mud viscosities above about 24 seconds. However, the data covering the mud with weak thixotropic properties indicate that the loss of water to formation increases rapidly as the funnel viscosity is reduced—with this tendency becoming very pronounced—below about 26 seconds.

In all cases, very thin mud cakes were deposited by muds having low funnel viscosities, and with the thixotropic mud an increase in viscosity appeared to have no pronounced effect on the thickness of the mud cake. However, the mud cakes deposited by the muds having only moderately-strong or weak thixotropic properties increased in thickness with an increase in funnel viscosity.

Discussion of Performance Tests

The experience gained in making the tests described above indicated that the performance characteristics of a mud can be evaluated with considerable reliability by a single test in the performance testing apparatus at a pressure of 2000 pounds per square inch and at a temperature of 200°F., which have been adopted as standard conditions. Exact correlation between the results of performance tests made under these conditions and the behavior of muds in actual drilling operations is, of course, impossible—but very valuable results have been obtained by applying information obtained with the performance testing apparatus to field operations. In a number of cases where extreme difficulty was being experienced, due, apparently, to caving formations, tests showed that the muds in use would deposit very thick mud cakes and would permit the loss of excessive quantities of water to formations. These muds were replaced by other muds having excellent performance characteristics, as determined by tests in the performance testing apparatus—and in every case the difficulties either disappeared entirely or were reduced greatly.

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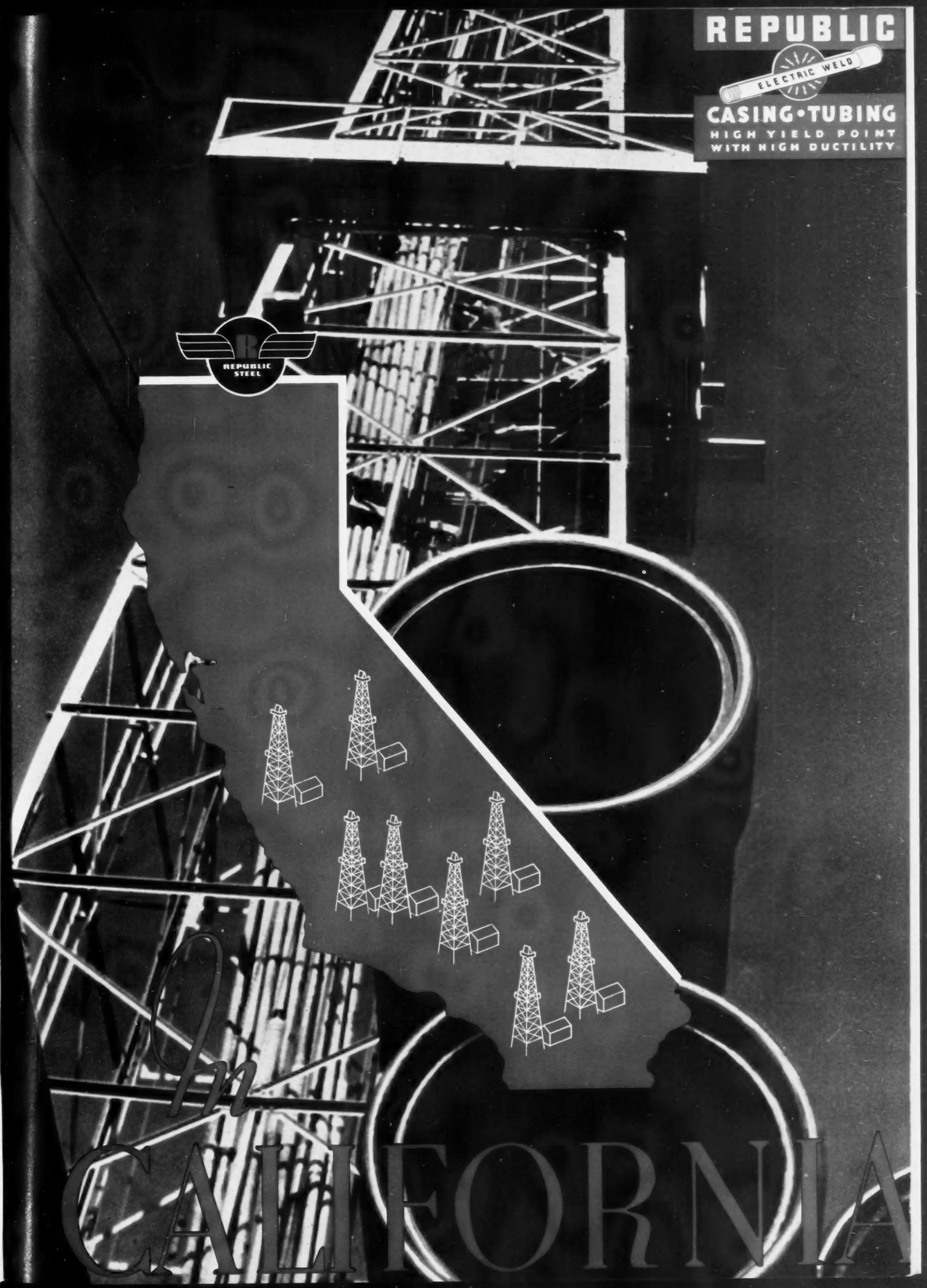
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PROPER LAYOUT AND SELECTION OF

Engine-Electric Rigs

IS BASED ON MUD PUMP CAPACITY

By W. C. DREYER, Engineering Department,
Westinghouse Electric & Manufacturing Co.,
St. Louis, Missouri

A COMMON question in the minds of oil operators today is the proper layout and selection of equipment for internal combustion engine-electric rigs. This is a natural problem in view of the increased use of this type of machinery.

In laying out an engine-electric rig for rotary drilling the capacity of all parts should be based upon the mud pumps. This is the greatest continuous load and will determine the engine size. The hoisting duty is not the determining factor because it is intermittent and of comparatively short duration.

Proper Capacities Important

The electrical equipment should be chosen so that the sizes of generators and motors are balanced and capable of transmitting the power to the pump. If this is done correctly, there will be sufficient power for a fast hoisting cycle.

As an idea of sizes, a rig powered by two 8-cylinder, 9 by 12 Diesel engines, rated at 350 horsepower each, is using two generators rated at 200 kilowatts, 40° Centigrade, and two exciters rated at 25 kilowatts, 40° Centigrade temperature rise. The generators and exciters are all mounted on a single long bedplate with V-belt pulleys. A disconnecting coupling is in the middle of this unit so that one engine drives a generator and exciter independent of the other engine and generator. The mud pump motors are rated 200 horsepower, but could well be rated 225 horsepower. The drilling motor is rated at 200/400 horsepower. The high rating is used for hoisting with both engines supplying power to it. The equipment is supplied complete with all auxiliary equipment, such as wash-down pump motor. There are a half dozen units of this size operating mostly on 6000 to 8000-foot wells. There are different type hookups in use, but the above was selected to give an idea of the various sizes of equipment making up a Diesel-electric rotary rig.

For drilling with smaller pumps, say 6 by 16 inch, the entire equipment should be just half this size. This would be 90-kilowatt or 100-kilowatt generators, 15-kilowatt exciters and 100-horsepower or 125-horsepower pump motor and a 100/200-horsepower hoisting motor.

It is customary to choose apparatus with as much duplicate equipment as possible on the rig. This is to permit operation at reduced capacity or at least to provide facilities for coming out of the hole regardless of what item that may fail. Duplicate engines, generators and exciters permit a dual source of power that is entirely utilized for normal operation. Often duplicate motors are used for mud pump and draw works drives. When this is not feasible, the same size shaft extension is provided on both types of motors. Control circuits are arranged for connecting remaining apparatus to perform any drilling function in event of failure of any part of generating equipment.

Layout Deserves Attention

The layout of machinery should be made for ease of installation and operation. Proper bedplates eliminate concrete under the generating units. Mechanical connection between generating units is often convenient

W. C. DREYER

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to permit the use of variable voltage control of both table and mud pump motor at reduced capacity from one engine. The connection is best left open during normal operation so that the engines will operate independently.

Diesel, gas and gasoline engines are in successful and economical use. Each type of engine has its peculiar advantages and its field of greatest economic worth.

As as example of fuel consumption, a rig powered by two 8-cylinder, 9 x 12 Diesels, rated 350 horsepower each, averaged about 7½ barrels of fuel oil and required about 50 barrels of cooling water per day in drilling to 7500 feet. Water for the mud pits depends upon formations, but should seldom average more than 500 barrels.

Operating Characteristics

Internal combustion engine-electrical rigs in use today are predominated by the direct-current, variable voltage type. These permit the engine to operate at continuous speed regardless of table or pump speed, and because the electrical generators are designed to limit the load on the engine to any predetermined value. This means that the engine will not be stalled or overloaded.

The engines run along at constant speed. They are driving generators and are not affected at all if the power is used to drive a heavy slow-speed load or a lighter high-speed load. When hoisting, the motor can be stalled and the engines are actually carrying a lighter load than if the motor were hoisting at about its rated speed and power. This is because the voltage is bucked down to near zero by the high-stalled motor current.

The engines and generators do not need to be lined up with the rig but may be installed at any convenient place. The full output of both engines may be concentrated in the hoist motor without necessity of having a rigid or positive connection between engines.

The above operating characteristics refer mostly to direct-current type rigs. Alternating current is particularly applicable when the distance between generating equipment and rig is so great that line losses make it necessary to transmit at higher voltage; when other load than the drilling rig is to be carried by the engines; when the drilling equipment will be operated at times from central station power; or when economic conditions make it advisable, such as when the operator has alternating-current drilling equipment already available.

Aside from these points direct current is usually superior to alternating current for rotary drilling. With direct current there is no power dissipated in grids to reduce motor speed. The motor speed being controlled by varying the generator voltage.

As mentioned before, direct current permits limiting the load on the engine by means of generator field proportioning and without any special control features. The drooping characteristics permit hoisting greater loads with a certain size of engine than is possible with alternating current. Furthermore, this characteristic gives higher no load speed for direct current than for alternating current. The alternating-current motor speed is limited by frequency, while the direct-current motor no load speed is a function of generator voltage, and is limited only by the mechanical limitations of the motor. Direct current is more easily controlled than alternating current, since only small field currents need by varied.

After all, the electrical part of an engine-electric rig is fundamentally for power transmission and control. The size of the rig depends upon the size of the engines. The electrical equipment does not add to this power.

Prices Are Lower

PRICES IN MID-CONTINENT REFLECT DISTURBING FACTORS

THERE are some who continue to profess optimism over the industry's market situation, pointing to various factors of encouraging nature. It is stated, for instance, that the markets in certain areas, including South Texas, are even strong enough to generate hope of price increases. Also, it is asserted that the nation's demand for oils has been comparatively heavy, while the stocks have been rigidly held down, through control of both wells and refineries, excepting excesses on the West Coast.

When all circumstances are taken into consideration, however, including some not so favorable as those above mentioned, it appears that a considerably less optimistic attitude is justified. For about two weeks the Mid-Continent gasoline tank car market has displayed weakness, even in the face of sharp curtailment of East Texas hot oil output. That weakness undoubtedly represents an acid test proving that the present and prospective circumstances are not exactly what they need to be for a firm or rising market.

Various Factors Unfavorable

Optimism must be tempered in the first place because the season of lower gasoline consumption is in progress, accompanied by a high sensitivity to any excesses of supply of either gasoline or crude.

On the unfavorable side, also, is the fact control lately has been less effective at wells and refineries. The result has been that some additions have been made to stocks of crude and refined products, whereas the stocks previously had been contracting.

With regard to controlling crude production, the greater part of the difficulty has been in California, where output continues alarmingly above indicated economic levels.

Stocks Fluctuate

For the week ended November 23 the American Petroleum Institute reported that crude production was down only 10,650 barrels from the previous week's high level, having averaged 2,839,950 barrels daily, or over 275,000 barrels per day more than the Bureau of Mines recommendation for national crude production during November.

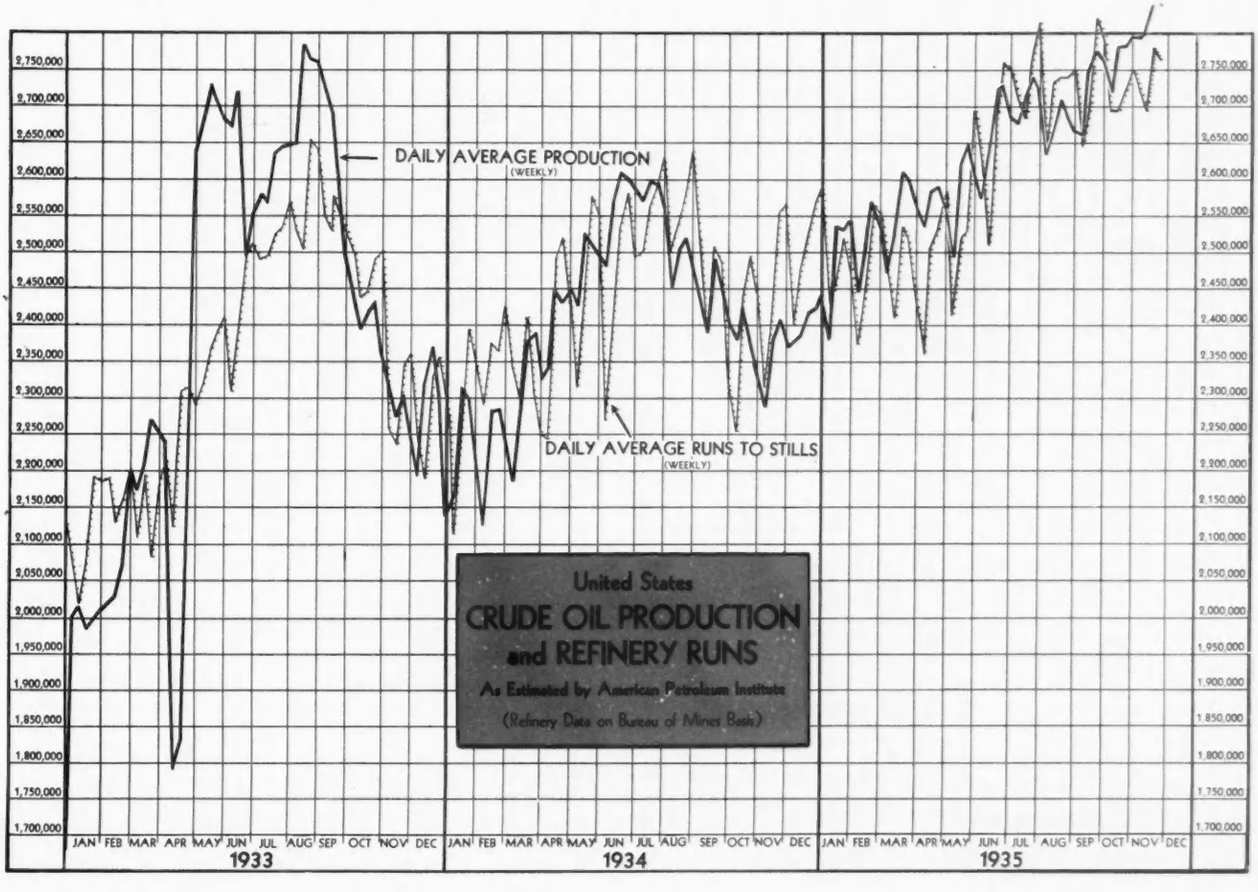
Runs to stills were cut back in the week of November 23 by 15,000 barrels daily, from the previous week's level, having averaged 2,765,000 barrels daily, on the Bureau of Mines basis. This was indicated in the American Petroleum Institute weekly report.

Despite the reduced refinery operations, however, the country's stocks of finished gasoline were added to by 363,000 barrels, having increased to 41,924,000 barrels. But that increase was partially offset by the fact unfinished gasoline stocks were withdrawn from 85,000 barrels, falling to 5,231,000 barrels.

Also partially offsetting the addition to finished gasoline stocks was a material reduction of the stocks of gas oil and fuel oil, which came down 635,000 barrels, or to 106,778,000 barrels in the week of November 23.

California Situation

From California last week came optimistic reports, as efforts were being



made to improve the gasoline market there by gaining approval of a new marketing code. There was fractional improvement of the standard and premium grades of gasoline, but the third grade prices remained unchanged. There were expressions of hope also for betterment of the crude production situation. However, the whole California situation actually was far from satisfactory, and it appeared that the budding optimism was based on uncertain ground.

Favorable Developments in Texas

Helping to sustain the markets in the Mid-Continent last week was the action of the Texas Railroad Commission in ordering the Texas allowable crude production cut back slightly as of December 1. It was estimated that the state's allowable for that date would be brought down about 10,000 barrels daily, under the new proration orders.

Another favorable circumstance in the Mid-Continent was the continued rigid enforcement of restrictions in East Texas. The hot oil output of the area last week was being estimated around 20,000 barrels daily, or about 5000 barrels a day less than in the previous week. This represents unusual success in holding the illegal production down, and is due to particularly determined efforts being put forth simultaneously by both federal and state authorities.

Mid-Continent Prices Lower

The gasoline tank car market in the Mid-Continent last week was generally off an eighth cent a gallon from the level of 10 days or so previously. Kerosene prices, similarly, were down an eighth cent.

In the Group Three (Oklahoma) region and North Texas the going prices late last week on U. S. motor gasoline appeared to be as follows: third grade, below 62 octane, 4⅝ cents a gallon; standard grade, 62-67 octane, 5⅛ cents; and premium grade, 68-70 octane, 5½ cents. All these prices were one eighth cent lower than those of a week or 10 days previously. Furthermore, the third grade was not firm even at 4⅝ cents, and wavered between that price and 4½ cents. At the middle of November, and for a month previously, the third grade in Oklahoma was steady at 4¾ cents a gallon.

East Texas Prices

In East Texas the gasoline tank car prices were the same as in the Group Three and North Texas districts on the two upper grades, but third grade was definitely down to 4½ cents.

Having declined one eighth-cent, kerosene prices last week were 3¼ cents a gallon in the Group Three region and North Texas, and 3⅛ cents in East Texas.

East Texas Tank Car Shipments

Week Ending November 24, 1935

PRODUCTS—	No. Cars	Estimated Gallons
Gasoline	405	3,258,962
Fuel Oil	208	2,007,284
Casinghead Gasoline	194	1,685,137
Distillate	35	277,828
Kerosene	29	229,134
Topped crude	21	193,977
Gas oil	23	188,516
Residuum	12	114,795
Naphtha	2	16,094
Total	929	7,971,727
Total previous week	1,139	9,668,415
Interstate	351	
Intrastate	330	
Coastwise	248	
Total	929	

Summary of Wells Completed in the United States Week Ending November 23, 1935

	Completions	Oil Wells	Gas Wells	Failures	Initial Production	Total Completions 1935	Total Completions this date 1934
Alabama	...	...	...	...	.....	4	3
Arkansas	1	...	...	1	.....	115	78
California	13	12	...	1	5,860	771	397
Colorado	...	...	...	...	.....	10	21
Illinois	...	...	...	...	.....	9	14
Indiana	3	...	1	2	.....	173	144
Kansas	21	10	2	9	6,652	1,256	842
Kentucky	3	2	...	1	110	157	244
Louisiana	14	6	3	5	4,010	647	708
Michigan	11	2	4	5	50	524	428
Mississippi	...	...	...	...	.....	18	34
Montana	3	3	...	...	260	154	178
New Mexico	4	4	...	...	2,890	259	113
New York	...	...	...	...	.....	...	4
Ohio	35	5	21	9	45	1,318	952
Oklahoma	28	17	2	9	13,886	2,144	1,686
Pennsylvania	5	1	2	2	5	118	264
Texas	198	137	11	50	230,280	10,592	8,778
Utah	...	...	...	...	.....	1	3
West Virginia	8	...	4	4	.....	450	375
Wyoming	2	1	1	...	292	66	47
Total this week	349	200	51	98	264,330	18,786	15,419
Total last week	432	280	37	115	483,972	...	...
Total this year	18,786	12,336	1,588	4,883	33,999,338	...	...

DECLINE IN HOT OIL

East Texas enforcement shows big improvement

ILLEGAL production of crude in the East Texas field continues to recede in volume as state and federal enforcement agencies make progress in breaking up the various schemes perfected by violators in marketing contraband material after it has been processed by local plants. Federals are credited with having made the Connally hot oil transportation law 100 percent effective since termination of truck movement of products without tenders to Louisiana points. Numerous indictments, restraining orders and actual prosecution of truck operators broke up Louisiana shipments.

Based on an analysis of refined oil products moved by East Texas refiners during the week ending November 25, less than 15,000 barrels of illicit crude was processed daily by all plants, and the estimate includes a limited volume of products cleared by the state through the confiscation route.

Some improvement was noted the past week in price quotation covering products restricted to Texas markets. Gasoline moving via tank cars with state tenders ranged from three to four cents per gallon, while tank truck sales varied from 2¾ to 3¾ cents, with the low figure applying to contraband material. Federal tendered gasoline consigned to majors at rate of about 200 cars each week has been frozen at 4⅝ cents for months, and the excess is being sold currently at prices ranging down to 4⅜ cents per gallon. State and federal taxes are not included in these quotations.

Rail movement of petroleum products from East Texas reflects the decline in hot oil activities, with a sharp drop in intrastate shipments noted lately. During the week ending November 24, tank car loadings slumped to the lowest level attained since mid-May, while the volume of commercial gasoline approached the low mark for the year reached in January and March when state and federal enforcement agencies put forth greater efforts toward restricting illicit shipments. Tank car loadings the past week involved 929 cars bearing 7,971,727 gallons of miscellaneous products. Movement included 3,258,962 gallons of gasoline in 405 cars. Intrastate rail hauls involve mostly fuel oil, residuum and topped crude derived from confiscated oil, and for the past week 94 cars of gasoline from the same source.

Comparison of Permits Granted for New Wells

STATE	Week Ending Nov. 23	Total this Mo.	Total this Year	Total this Date Last Year	1934 Total Year
Arkansas	2	6	57	77	100
California	16	59	871	534	629
Louisiana	8	48	754	738	799
Kansas	29	99	1,063	900	1,015
Michigan	15	62	674	405	460
Oklahoma	55	185	2,061	1,844	2,045
Texas	197	1,643	9,937	9,254	10,550
Total	322	1,202	15,417	13,752	15,598

PRODUCTION DROPS

Decline in California offset by Texas increase

UNITED STATES crude oil production last week (ending November 30) was 11,600 barrels a day lower than in the previous week, having averaged 2,816,600 barrels per day. That production rate was 252,900 barrels a day above the amount recommended for November by the Bureau of Mines.

The decline of production for last week was the result of the circumstances that Oklahoma's output declined, while an 8000-barrel decrease in California was almost exactly offset by a similar increase for Texas.

Oklahoma last week averaged 484,725 barrels daily, or 14,650 barrels per day less than in the previous week. The new production rate was 7275 barrels a day under the Bureau of Mines estimate of demand for the state in November.

California Down

California production came down to 665,500 barrels daily for the week of November 30, but it still was about 160,000 barrels above the Bureau of Mines recommendation, as well as materially above the recommendation of the state's own committee of operators.

Texas output last week was up to 1,061,800 barrels daily, or about 35,000 barrels per day higher than the amount recommended by the Bureau of Mines for November. However, the state earlier in the month had shown smaller output, as the proration plan for East Texas calls for gradual increase of allowable with completion of new wells. For December 1, moreover, the Texas Railroad Commission has ordered a reduction of the Texas allowable by about 10,000 barrels daily.

Kansas in the week ended November 30 averaged 145,775 barrels production daily, which was 1650 barrels a day more than in the previous week, and 2475 barrels per day more than the Bureau of Mines recommendation.

Louisiana production, meanwhile, averaged 162,100 barrels daily, or 100 barrels a day more than in the previous week, and 35,000 barrels a day more than the Bureau of Mines recommendation.

EAST TEXAS GASOLINE

TYLER.

NATURAL gasoline production in the East Texas field amounts to approximately 315,000 gallons daily, with 16 plants in operation and two large units under construction. The operating plants are connected to about 11,800 wells.

Sinclair Prairie Oil Company is the largest producer, having a recovery of about 53,000 gallons daily from 1650 wells in the north Gregg County area This company is erecting a plant on the F. B. Wilson lease, B. McAnulty Survey, Joiner area, Rusk County, with a rated capacity of 12,000,000 cubic feet daily. The Gilliland - Trippett - Meadows interests are erecting a similar plant on the Wm. Jernigan lease, located in northern Rusk County.

United States Crude Oil Production

Estimates Compiled by THE OIL WEEKLY

DISTRICT OR STATE	BARRELS DAILY FOR WEEK ENDING November 30	November 23
TEXAS—		
Texas Panhandle	60,100	56,200
North Texas	59,500	59,300
West Central Texas	25,600	25,500
West Texas	165,100	165,100
East Central Texas	46,900	46,500
*East Texas Field	434,200	433,500
†South Texas	63,200	62,600
Texas Gulf Coast	207,200	205,200
*Total Texas	1,061,800	1,053,900
OKLAHOMA—		
Oklahoma City	126,100	137,125
Seminole Area	123,675	124,775
Tatums	4,250	4,200
Lucien	10,200	9,975
Fitts	34,850	37,300
Edmond	6,750	7,825
Others	178,900	178,175
Total Oklahoma	484,725	499,375
KANSAS—		
Ritz-Canton	6,650	6,775
Voshell	3,450	3,800
Nikkel-Hollow	5,475	5,275
Sedgwick	7,025	6,850
Oxford	5,550	5,075
Burrton-Haury	18,750	18,850
Lorraine	9,200	9,975
Others	89,675	87,525
Total Kansas	145,775	144,125
LOUISIANA—		
North Louisiana	33,750	31,500
Louisiana Gulf Coast	128,350	130,500
Total Louisiana	162,100	162,000
ARKANSAS	29,600	29,500
CALIFORNIA—		
Long Beach	76,500	77,500
Santa Fe Springs	54,000	53,500
Huntington Beach	41,500	43,500
Dominguez	26,500	24,500
Inglewood	13,000	14,000
Ventura Avenue	40,000	40,000
Seal Beach	6,500	6,500
Midway-Sunset	59,000	60,000
Elwood	17,000	15,500
Kettleman Hills	107,500	108,500
Mountain View	38,000	39,000
Playa del Rey	16,500	16,000
Others	169,500	175,000
Total California	665,500	673,500
MOUNTAIN STATES—		
Wyoming	36,800	36,800
Montana	12,800	12,900
Colorado	4,100	4,100
Total Rocky Mountain States	53,700	53,800
NEW MEXICO	57,800	56,900
EASTERN STATES	105,100	105,000
MICHIGAN	50,500	50,100
*Total United States	2,816,600	2,828,200
*Surreptitiously produced oil in East Texas, not included in above figures, estimated at	20,000	25,000
Grand Total, including surreptitious production	2,836,600	2,853,200

† Coastal District of South Texas included with Texas Gulf Coast.

Crude Runs to Stills, Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended November 23, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(*) Stocks of Unfinished Gasoline	(†) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys. Term. etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	468	76.5	4,081	7,623	11,704	785	200	12,094	534	534	100.0	106
Appalachian	154	146	94.8	110	75.3	970	788	1,758	268	65	953	79	78	98.7	21
Ind., Ill., Ky.	442	424	95.9	351	82.8	3,437	3,697	7,134	666	45	4,035	349	348	99.7	112
Okla., Kans., Mo.	453	384	84.8	271	70.6	2,714	1,819	4,533	482	680	4,729	256	228	89.1	68
Inland Texas	330	160	48.5	98	61.3	1,023	81	1,104	186	1,615	1,678	148	105	70.9	26
Texas Gulf	617	595	96.4	546	91.8	4,652	174	4,826	1,419	115	10,964	399	393	98.5	116
Louisiana Gulf	169	163	96.4	131	80.4	697	338	1,035	256	.....	5,007	77	74	96.1	32
North La.,—Ark.	80	72	90.0	51	70.8	185	54	239	35	145	523	46	44	95.7	11
Rocky Mountain	97	60	61.9	44	73.3	660	.....	660	108	115	769	46	39	84.8	11
California	852	789	92.6	505	64.0	6,875	2,056	8,931	1,026	1,720	66,026	280	280	100.0	61
TOTALS WEEK: November 23, 1935	3,806	3,405	89.5	2,575	75.6	25,294	16,630	41,924	5,231	4,700	106,778	2,214	2,123	95.9	564
November 16, 1935	3,806	3,405	89.5	2,592	76.1	25,152	16,409	41,561	5,316	4,820	107,413	2,214	2,123	95.9	574

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week November 23, 1935, compared with November, 1934 Bureau figures.

Estimate B. of M. Basis, November 23, 1935	2,765		600
Estimate B. of M. Basis, November 16, 1935	2,780		610
U. S. B. of M., November, 1934: Daily Average Crude Runs	2,446	U. S. B. of M., November, 1934: Daily Average Cracked Prod.	520

(*) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(†) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

BETTER OUTLOOK

California is optimistic over market prospects

THE outlook for a market improvement in California marketing circles was indicated late last week. There is an improved feeling throughout the state, especially in the greater Los Angeles and in the San Joaquin Valley areas, where low gasoline prices have prevailed for some time.

If the present bad situation is righted it will be through the adoption of the proposed voluntary Code of Fair Marketing Practice. Under this code, oil companies will refrain from giving away pumps, will not follow certain tactics with reference to taking customers from other competing companies. The natural consequence would be that no product will be sold at less than cost. In fact, retail prices will increase to a point where both refiner and retailer will make a fair profit.

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SELL PROPERTIES

Darby sells Tide Water acreage in stock deal

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(Figures Represent Basic or Flat Prices—Revised to November 29, 1935)

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N. and N.-C. Texas	28— .79	2¢	40— 1.03	9-29-33
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Gray County	34— .79	2¢	40— .91	9-29-33
Carson-Hutchinson	34— .69	2¢	40— .81	9-29-33
West Texas				
Ector, Pecos, W'kler	*.75			9-29-33
Crane, Upton, Howard and Glasscock	*.70			9-29-33
East Texas	*1.00			9-29-33
Texas Gulf Coast				
Anahuac-Dickinson	30— .94	2¢	40— 1.14	8-20-35
Conroe	35— 1.09	2¢	40— 1.19	9-29-33
Tomball	*1.15			9-29-33
Cleveland	*1.00			1-11-34
†Goose Creek, Hull Liberty, Orange, Pierce Junction, Moss Bluff, Raccoon Bend, Sour Lake, Spindletop, Sugarland, West Columbia, Humble, Rabbs Ridge	Below 20— .82	2¢	34— 1.12	9-29-33
South and S. W. Texas	Below			
Refugio (Light)	20— .82	2¢	34— 1.12	9-29-33
Refugio (Heavy)	* .80			6-29-35
Saxet	* .80			6-29-35
Mirando	* .75			6-29-35
Pettus	*1.05			9-29-33
Salt Flat	* .87			9-29-33
Darst Creek	* .87			9-29-33
Port Lavaca	* .97			
Arkansas				
El Dorado (Light) and Rainbow	29— .79	2¢	0— 1.03	3-17-34
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Iowa, Cameron Mds.	Below 20— .70	2¢	34— 1.00	9-29-33
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Elk Basin	*1.17			9-29-33
Grass Creek (Light)	*1.17			9-29-33
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Cut Bank	*1.45			9-29-33
Pondera	*1.05			9-29-33
Hog Back, N. M.	*1.00			9- 8-33
Lea County, N. M.	* .75			9-29-33
Mid-West States				
Lima	*1.15			2- 1-35
Illinois	*1.13			1- 5-34
Princeton	*1.13			1- 5-34
Western Kentucky	*1.13			5-22-35
Pennsylvania				
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Sw. Pa. Pipe Line	*2.02			11-18-35
Eureka Pipe Line	*1.97			11-18-35
Buckeye Pipe Line	*1.82			11-18-35
Corning Grade	*1.32			10- 2-33
Michigan				
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Canada				
Petrolia	*2.10			9- 9-33
Oil Springs	*2.17			9- 9-33

MAJOR PRICE CHANGES

	Penna. (Nat. Tr.)	Mid-Cont. (36 Gr.)	Calif (26 G
March 5, 1933	.....	.....	Cut 24
May 2, 1933	.....	Cut 19	.....
May 9, 1933	Cut 20	.....	.....
May 22, 1933	Up 10	.....	.....
June 19, 1933	Up 10	Up 19	.....
June 26, 1933	Up 10	.....	Up 9-12
July 6, 1933	Up 13	Up 10	.....
July 17, 1933	Up 15	.....	.....
July 28, 1933	Up 15	.....	.....
August 11, 1933	Up 10	.....	.....
August 24, 1933	.....	Up 10	.....
August 30, 1933	Up 15	.....	.....
September 6, 1933	Up 10	Up 10	Up 15
September 8, 1933	.....	Up 15	.....
May 1, 1934	Up 10	.....	.....
November 6, 1934	Cut 25	.....	.....
December 6, 1934	Cut 25	.....	.....
January 4, 1935	Up 15	.....	.....
February 4, 1935	Up 15	.....	.....
May 16, 1935	Cut 15	.....	.....
June 26, 1935	Cut 15	.....	.....
July 16, 1935	Cut 10	.....	.....
August 29, 1935	.....	.....	Reduced
September 6 1935	Up 5	.....	.....
October 29, 1935	Up 15	.....	.....
November 1, 1935	.....	.....	Raised
November 18, 1935	Up 15	.....	.....

CRUDE PRODUCTION TAXES

Oklahoma—Five percent of gross value less royalty interest.

Texas—Two cents or 2 percent, whichever is higher.

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Arkansas—2.6 percent of gross market values.

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* All gravities—flat rate.
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CALIFORNIA

(All gravities above those quoted take lowest price offered in that field Effective November 1, 1935)

Gravity	Signal Hill	Seal Beach Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey	Olinda Brea Canon	Athens Rosecrans Domingues	Elwood Terrace	Torrance	Richfield	Whittier La Habre	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Mountain View	Midway Sunset Elk Hills Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge
14-14.9	$.75	$.74	$.73	$.74	$.75	$.71	....	....	$.75	$.71	$.71	$.72	$.72	....	$.65	....	$.65	$.65	$.65	....
15-15.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
16-16.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
17-17.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
18-18.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
18-19.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	$.65	.65	.65	.65	$.65
20-20.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	....	.65	.65	.65	.65	.65
21-21.9	.75	.74	.73	.74	.76	.71	....	....	.75	.71	.71	.72	.72	$.73	....	.65	.66	.67	.65	.65
22-22.9	.75	.74	.73	.75	.78	.72	....	....	.75	.71	.71	.72	.72	.73	....	.65	.67	.68	.66	.65
23-23.9	.75	.74	.74	.76	.79	.73	$.75	....	.76	.71	.72	.73	.72	.73	....	.65	.69	.70	.67	.65
24-24.9	.77	.74	.75	.77	.81	.74	.75	F.O.B. Ship	.77	.72	.74	.74	.73	.73	....	.65	.71	.71	.69	.65
25-25.9	.78	.75	.76	.78	.82	.75	.76		.78	.73	....	.75	.74	.73	....	.66	.72	.73	.70	.66
26-26.9	.79	.76	.78	.79	.83	.76	.77		.79	.74	....	.76	.75	.73	....	.67	.74	.74	....	....
27-27.9	.80	.78	.79	.80	....	.77	.79		....	.75	....	....	.77	.74	....	.68	.76	.76	....	....
28-28.9	.81	.79	.80	.81	....	.79	.80		....	.76	....	....	.78	.75	....	.70	.77	.77	....	....
29-29.9	.82	.81	.81	.82	F.O.B. on Pipe Line	....	.82		....	.78	....	....	.79	.77	....	.71	.79	.78	....	....
30-30.9	.83	.83	.82	.83		....	.83	....	....	....	....	....	.80	.78	....	.72	.81	.80	....	....
31-31.9	....	....	....	.84		....	.84	....	....	Kettleman Hills			.81	.79	....	.74	.83	....	....	....
32-32.9	....	....	....	.85		....	.86	....	....				.82	.81	....	.75	.84	....	....	....
33-33.9	....	....	....	....		....	....	$.84	....		$.81		.83	.82	....	.76	.86	....	....	....
4-34.9	....	....	....	....		....	....	.85	....		.83		.85	.83	....	.77	....	....	....	....
5-35.9	....	....	....	....		....	....	.86	....		.84		....	.85	....	....	....	....	....	....
6-36.9	....	....	....	....		....	....	.88	....		.86		....	.86	....	....	....	....	....	....
7-37.9	....	....	....	....		....	....	.89	....		.87		....	.87	....	....	....	....	....	....
8-38.9	....	....	....	....		....	....	....	....		.88		....	.89	....	....	....	....	....	....
9-39.9	....	....	....	....		....	....	....	....		90		....	....	....	....	....	....	....	....

Crude Runs to Stills, Finished and Unfinished Gasoline; Gas and Fuel Oil Stocks; and Cracked Gasoline Production, Week Ended November 23, 1935

(Figures in thousands of barrels of 42 gallons each)

DISTRICT	Daily Refining Capacity of Plants			Crude Runs to Stills		Stocks of Finished Gasoline			(*) Stocks of Unfinished Gasoline	(†) Stocks of Other Motor Fuel	Stocks of Gas and Fuel Oil	Daily Charging Capacity of Cracking Units			Cracked Gasoline Production
	Potential Rate	Reporting		Daily Average	% Operated	At Refineries	Bulk Term., in Trans. & Pipe Lines	Total at Refys. Term. etc.				Potential Rate	Reporting		Daily Average
		Total	%										Total	%	
East Coast	612	612	100.0	468	76.5	4,081	7,623	11,704	785	200	12,094	534	534	100.0	106
Appalachian	154	146	94.8	110	75.3	970	788	1,758	268	65	953	79	78	98.7	21
Ind., Ill., Ky.	442	424	95.9	351	82.8	3,437	3,697	7,134	666	45	4,035	349	348	99.7	112
Okla., Kans., Mo.	453	384	84.8	271	70.6	2,714	1,819	4,533	482	680	4,729	256	228	89.1	68
Inland Texas	330	160	48.5	98	61.3	1,023	81	1,104	186	1,615	1,678	148	105	70.9	26
Texas Gulf	617	595	96.4	546	91.8	4,652	174	4,826	1,419	115	10,964	399	393	98.5	116
Louisiana Gulf	169	163	96.4	131	80.4	697	338	1,035	256	.....	5,007	77	74	96.1	32
North La.,—Ark.	80	72	90.0	51	70.8	185	54	239	35	145	523	46	44	95.7	11
Rocky Mountain	97	60	61.9	44	73.3	660	.....	660	108	115	769	46	39	84.8	11
California	852	789	92.6	505	64.0	6,875	2,056	8,931	1,026	1,720	66,026	280	280	100.0	61
TOTALS WEEK: November 23, 1935	3,806	3,405	89.5	2,575	75.6	25,294	16,630	41,924	5,231	4,700	106,778	2,214	2,123	95.9	564
November 16, 1935	3,806	3,405	89.5	2,592	76.1	25,152	16,409	41,561	5,316	4,820	107,413	2,214	2,123	95.9	574

Below are set out estimates of Crude Runs and Cracked Gasoline Production on B. of M. Basis for Week November 23, 1935, compared with November, 1934 Bureau figures.

Estimate B. of M. Basis, November 23, 1935	2,765		600
Estimate B. of M. Basis, November 16, 1935	2,780		610
U. S. B. of M., November, 1934: Daily Average Crude Runs	2,446	U. S. B. of M., November, 1934: Daily Average Cracked Prod.	520

(*) Amount of Unfinished Gasoline contained in Naphtha Distillates.
(†) Estimated. Includes Unblended Natural Gasoline at refineries and plants; also Blended Motor Fuel at plants.

BETTER OUTLOOK

California is optimistic over market prospects

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15-15.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
16-16.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.65	....
17-17.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.6[illegible]	....
18-18.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	....	.65	.65	.6[illegible]	....
19-19.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	.65	$.65	.65	.65	.65	$.65
20-20.9	.75	.74	.73	.74	.75	.71	....	....	.75	.71	.71	.72	.72	....	....	.65	.65	.65	.65	.63
21-21.9	.75	.74	.73	.74	.76	.71	....	....	.75	.71	.71	.72	.72	$.73	....	.65	.66	.67	.65	.65
22-22.9	.75	.74	.73	.75	.78	.72	....	....	.75	.71	.71	.72	.72	.73	....	.65	.67	.68	.66	.65
23-23.9	.75	.74	.74	.76	.79	.73	$.75	....	.76	.71	.72	.73	.72	.73	....	.65	.69	.70	.67	.65
24-24.9	.77	.74	.75	.77	.81	.74	.75	F.O.B. Ship	.77	.72	.74	.74	.73	.73	....	.65	.71	.71	.69	.65
25-25.9	.78	.75	.76	.78	.82	.75	.76		.78	.73	....	.75	.74	.73	....	.66	.72	.73	.70	.66
26-26.9	.79	.76	.78	.79	.83	.76	.77		.79	.74	....	.76	.75	.73	....	.67	.74	.74	....	....
27-27.9	.80	.78	.79	.80	....	.77	.79		....	.75	....	....	.77	.74	....	.68	.76	.76	....	....
28-28.9	.81	.79	.80	.81	....	.79	.80		....	.76	....	....	.78	.75	....	.70	.77	.77	....	....
29-29.9	.82	.81	.81	.82	F.O.B. our Pipe Line	....	.82		....	.78	....	....	.79	.77	....	.71	.79	.78	....	....
30-30.9	.83	.83	.82	.83		....	.83	....	....	....	....	....	.80	.78	....	.72	.81	.80	....	....
31-31.9	....	....	....	.84		....	.84	....	....	Kettleman Hills			.81	.79	....	.74	.83	....	....	....
32-32.9	....	....	....	.85		....	.86	....	....				.82	.81	....	.75	.84	....	....	....
33-33.9	....	....	....	....		....	....	$.84	....	$.81			.83	.82	....	.76	.86	....	....	....
4-34.9	....	....	....	....		....	....	.85	....		.83		.85	.83	....	.77	....	....	....	....
5-35.9	....	....	....	....		....	....	.86	....		.84		....	.85	....	....	....	....	....	....
6-36.9	....	....	....	....		....	....	.88	....		.86		....	.86	....	....	....	....	....	....
7-37.9	....	....	....	....		....	....	.89	....		.87		....	.87	....	....	....	....	....	....
8-38.9	....	....	....	....		....	....	....	....		.88		....	.89	....	....	....	....	....	....
9-39.9	....	....	....	....		....	....	....	....		90		....	....	....	....	....	....	....	....

OIL FEATURED

Texas Centennial plans petroleum exhibits

Dallas.—Oil, which is Texas' chief source of wealth, will play a major part in the Texas Centennial Exposition, which opens in Dallas, June 6, 1936. Oil, cattle and cotton, those three giants of a giant state, will be shown in all their strength and importance on the exposition grounds.

The Petroleum and Transportation Building will have one great sector devoted entirely to oil, carrying it through its crude underground state beneath the man-made forests of black derricks in East and West Texas, to the finished product. Texas' ability to produce petroleum apparently is limited only by market conditions and governmental rulings, her annual production being 70 percent of that of the United States, and 41 percent of the whole world. In 1929 alone, Texas was responsible for 298,702,000 of the 1,005,598,000 barrels of petroleum in the United States.

Texas can boast the largest oil and refining industry in the world, located at Port Arthur, home of Gulf Refining Company and The Texas Company, both of which are to be represented at the Texas Centennial Exposition, along with Continental Oil Company of Ponca City, Oklahoma, which has just signified its intention of erecting a special building on the exposition grounds. The Conoco building is to be located near the Petroleum and Transportation Building.

Texas and oil are synonymous terms. One of the oldest oil wells in the United States is located in Texas, as well as the deepest one. Nor is oil the only major product of these fields. In 1930, Texas produced 550,000,000,000 cubic feet of natural gas, and in addition to supplying her own needs, serviced St. Paul, Chicago, and other mid-western cities, as well as the Republic of Mexico. The pipe line from Pampa, the world's largest gas field, to Chicago, is 1000 miles long and cost $100,000,000.

The Panhandle city of Amarillo is the location of the largest helium gas plant in the world, and, from its inception, has supplied both the army and navy with gas for their dirigibles.

During the first week in October, Conoco officials came to Dallas to work out plans for the Conoco building for the Texas Centennial Exposition. T. H. Lawson, state agent for the Continental Oil Company, whose headquarters are in Fort Worth, headed the Conoco delegation. Announcement of the signing of the lease for the building site was made public a few days later. The special Conoco structure for the exhibit of the Conoco wares and their products, will be located between the Administration and Petroleum and Transportation buildings, and will be of such architectural design as to fit properly into the $15,000,000 building program now under way on the exposition grounds.

Conoco, therefore, has had the honor of being the first large oil concern to conclude negotiations with the exposition. But deals with several others are now in the process of discussion, and it is a certainty that oil, Texas' greatest source of wealth, will be properly rated at the Texas Centennial Exposition, for all the world to see and marvel over.

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RESIST CUPPING!

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These properties are important, but most important is the ability of a Flange Union to resist the Cupping action that occurs when the pressure gets high. These unions grip the threads of the pipe to which they are connected and stripping is reduced to the minimum. They are tough and stiff without being brittle. They get the job done.

The Ring Joint Gaskets are forged endless of pure Armco Ingot Iron. Free of hard spots . . . absolutely uniform . . . sufficiently soft and yielding to form a perfect seal . . . rust resisting . . . and withstand severe corrosive conditions.

Ask for Bulletin No. 116 which gives full details regarding this high quality product.

Kerotest Flange Unions are Available in All Line Pipe and Casing Sizes

KEROTEST

Kerotest Manufacturing Co.
Pittsburgh, Pa., U. S. A.

TRINIDAD

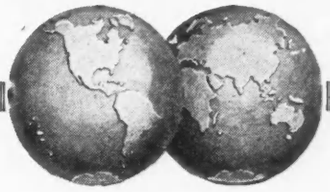
After suffering a decline of 10,937 imperial barrels in September, production of crude oil in Trinidad, B.W.I., rose to 1,015,492 barrels in October, thereby not only showing an increase of 23,047 imperial barrels over the 992,445 imperial barrels produced in September, but also making October the peak month of 1935 thus far, according to figures sent THE OIL WEEKLY by Nelson Betancourt, acting inspector of mines, Trinidad.

October's production brought the total oil recovered in Trinidad fields during the first 10 months of 1935 up to 9,513,305 imperial barrels of 35 imperial gallons each.

Total production from fields of Trinidad during the first 10 months of the year follows: (figures in imperial barrels of 35 imperial gallons each).

Month	Total Production
January	915,220
February	843,619
March	919,848
April	909,946
May	953,108
June	972,904
July	988,341
August	1,003,382
September	992,445
October	1,015,492
Total	9,513,305

WORLD DEVELOPMENTS and TECHNOLOGY



Edited by
WM. V. GROSS, Associate Editor

Madagascar

SLOW PROGRESS MADE WITH INTERESTING DEPOSIT

Letters written by THE OIL WEEKLY to Antananarivo, Tananarive, and Maintirano, Madagascar, have brought forth the statement that very little, if any progress has been made on exploration work for oil in Madagascar by Syndicat d'Etudes et de Recherches Petrolieres a Madagascar. This organization is jointly controlled by Compagnie Francaise des Petroles, the colonial government of Madagascar and the French Office National des Combustibles Liquides, and is drilling a wildcat near Maintirano.

As early as 1898 attention was called to bitumen seepages in Madagascar. The product of these seepages, a sticky material more or less fluid, is black and has an odor distinct from that of crude petroleum. These seepages occur in many places in West Madagascar, from Mossi-Be to south of the River Onilahy.

With the discovery of coal as its objective, the first well was spudded at Ankaramy, south of Mossi-Be, in 1901. It was forced to stop drilling at 119 meters after having penetrated beds heavy with bitumen impregnated limestone and veins of solid bitumen.

A second exploratory drilling campaign in 1909 by British and South African interests, with oil as the objective, was not commercially successful. This second series of attempts was in the region centering around Folahara and Maroboaly. There, too, bitumen beds furnished the obstacle to reaching oil sands.

Now, if the bituminous sands are the "remains of one of the greatest oil reservoirs in the world," as they have been claimed to be by Bertrand and Jolland who conducted investigations of Madagascar's petroleum possibilities in an expedition which took place in 1923, it is logical to assume that in the parts where protective coverings have not been reached by erosion one might reasonably expect to find oil, according to the resident geologists.

In this connection, i.e. with regard to erosion, it has been pointed out that the Madagascan bitumen is the result of oxidation of reservoir crude oil by air and water. It is held that it has an organic origin; that the oil has risen from the sea rock (roche-mer) in the "roche magasin" without any eruption of volcanic phenomena. Further with reference to erosion, it is advanced that the region around Bemahara has not been subjected to erosion."

BAHREIN GROWS

Importance of area sure to become greater

In rapid tempo the Bahrein Islands, lying off eastern Arabia in the Persian Gulf, are developing into an oil field area of international importance, according to a statement prepared by A. H. Redfield in cooperation with the foreign minerals division of the United States government.

Last week's issue of THE OIL WEEKLY, carried an item on Bahrein wherein it was stated: "The field is the finest I have ever been in — easy drilling, low depth of pay sand (2000-2500 feet); plentiful wellhead pressure, and no pumping." This gentleman ended his letter with the statement: "You may expect big things this way in the next few years."

Now comes Mr. Redfield's statement's continuation with: "In the second half of 1934 the field was brought into production and yielded 285,071 barrels to the end of the year. In the first seven months of 1935 the production, considerably throttled down, has been increased to 525,000 barrels. . . It is only a question of time until these figures of output are considerably exceeded.

"According to reports from New York, negotiations have taken place between Standard Oil Company of California, (holder and developer of the Bahrein Islands concession), and the world-wide concerns, Standard Oil Company of New Jersey, the Royal Dutch Shell, and Anglo-Iranian Oil Company, Ltd., for the purpose of turning the Bahrein crude oil over to these companies for utilization . . . There is talk of taking 15,000 or 20,000 barrels per day."

In this connection, previous rumors were to the effect that the company, or companies, agreeing to take Bahrein production would find it necessary to build a refinery on the island. This contingency, however, was taken care of by the announcement, also in last week's issue of THE OIL WEEKLY, to the effect that the Standard Oil Company of California would build its own refinery on the island to take care of production coming from Bahrein proper and from the new strike near Irassa, Saudi Arabia.

The new field, as yet unnamed, is 25 miles on a bee line from Bahrein Island field. It yields high gravity oil from sands found around 2300 feet. With reference to this latter field, the foreign minerals division advances the theory that it may be of geologically similar origin to the great fields of Iraq and Iran.

EAST INDIES WORK

Considerable attention is attached to the yet unannounced results of geological prospecting by Sarawak Oilfields, Ltd., (subsidiary of Anglo-Saxon Petroleum Company, which is, in turn, a subsidiary of Royal Dutch Shell), on the Island of Sipitang, off the Borneo coast, and at Kudat, also in the East Indies group.

Reason for interest in the exploratory work is found in the steady decline in production in Dutch (Netherland) Borneo, making it necessary to look elsewhere for new oil if capacity requirements of the refinery at Balikpappan are filled. Production in Netherland Borneo dropped a half million barrels in 1934, more than enough to offset the gain realized in the British portion of the island.

CANADIAN OUTPUT UP

Slight increase over last year is being recorded

Canadian production of crude petroleum in September reached a total of 123,918 barrels according to a report just issued by the Dominion Bureau of Statistics at Ottawa. In August, 117,652 barrels were produced, while in September, a year ago, the output was 115,011 barrels. During the nine months ending September, Canada produced 1,074,723 barrels of crude petroleum as compared with 1,070,517 barrels in the corresponding period of 1934.

Alberta's output in September totalled 109,143 barrels consisting of 104,063 barrels of crude naphtha and 1379 barrels of light crude oil from the Turner Valley field, 1689 barrels of light crude oil from the Red Coulee field, 1776 barrels of heavy crude oil from the Wainwright field and

236 barrels of heavy crude oil from the Skiff field.

Natural gas production from Canadian wells during September amounted to 1,070,777 thousand cubic feet; in August 928,263 thousand cubic feet were produced while in September, 1934, the output was 1,244,683 thousand cubic feet. The Canadian production during the nine months ending September totalled 15,597,345 thousand cubic feet as against 17,033,804 thousand cubic feet in the corresponding period of 1934.

Production of petroleum in Canada, by months, 1933-1935:

	1935* Barrels	1934 Barrels	1933 Barrels
January	124,654	124,364	82,792
February	111,545	116,523	73,101
March	120,537	130,007	87,241
April	113,685	118,859	84,989
May	123,801	117,660	90,686
June	120,119	110,115	114,380
July	118,812	122,067	100,445
August	117,652	115,911	101,533
September	123,918	115,011	98,273
October	.....	122,023	107,054
November	.....	113,196	108,323
December	.....	117,133	113,724
Total—Calendar Year	.....	1,422,869	1,162,541
Total—Nine months ending September	1,074,723	1,070,517	833,440

* Subject to revision.

BURMA GAS

Burma Cement Company, Ltd., recently was organized in Rangoon for the dual purpose of acquiring from Indo-Burma Petroleum Company, Ltd., the right to drill for and produce natural gas from any part of an area of 178.2 acres in Pyaye field, Thayetmyo district, Burma, and title to two equipped gas wells already completed on the acreage, as well as for the purpose of manufacturing and marketing in Burma and elsewhere Portland cement and other products. The announced consideration was 381,000 rupees.

In addition to the above, the purpose of the Burma Cement Company, Ltd., is to acquire, also from Indo-Burma Petroleum Company, Ltd., two areas containing quarries and deposits of limestone and clay. One of these areas consists of 215 acres; the other consists of 910 acres. Both are held under lease from the Indian government, the former expiring 30 years from 1932, the latter expiring 10 years from 1932.

Indo-Burma Petroleum Company reserves the right to drill one more well for oil on the property within a period of one year and to utilize gas from either or both of the above referred to gas wells for fuel for that drilling.

John Tait, general manager of Steel Brothers & Company, Ltd., Rangoon, the company acting as agents in India for several oil companies, has been chosen chairman of the board of directors of Burma Cement Company, Ltd. Stock in the organization is available only to British or British Indian subjects or to subjects of any Indian state in India or to corporations definitely established as coming under those classifications.

ESTHONIA SHALES UP

Negotiations planned to double processing

If negotiations between the shale oil industry in Esthonia and certain German concerns carrying more or less official backing of the government are carried out, production of fuel oil from shale by Esti Kivoli Company in Esthonia will be increased from 189,000 barrels annually to 490,000 barrels.

Manufacturing facilities for making fuel oil from mined shale in Esthonia are being increased, with assurance that the additional output will be taken by German concerns. Official Germany, on the other hand, is standing behind the agreement approving a scheme which means exploitation of a resource near at hand, one that other nations would find difficult to tie up in the event of international crises, and one that will furnish Germany with a base from which to manufacture synthetic fuels, especially when that basic product may be paid for largely with materials manufactured in Germany.

Another angle to the situation is that if Germany takes all production from the Esthonian mines of Esti Kivoli Company in excess of Esthonia's domestic needs, and these are little, nations which have been shipping crude petroleum to Germany must figure on losing 301,000 barrels of crude oil export business annually.

The German press states the oil shale industry in Esthonia is now flourishing after having suffered considerably from infant maladies during the first five years. It declares, moreover, the outlook for the shale oil industry is good.

A detailed delineation of Esthonia's shale reserves has been published on pages 103 and 106 of the March 18, 1935, issue of THE OIL WEEKLY.

BURMA DISCOVERY

Indo-Burma Petroleum Company, Ltd., has discovered a new deep sand in Lanywa field, Burma, the first completion therein being good for 400 barrels per day initially, according to word received in San Francisco. Depth of the sand was not announced.

Lanywa field, located on the west bank of the Irrawaddy river in Upper Burma, has been considered structurally as the southern part of the Yenangyat field or the northern part of the Singu field. The productive area lies in an embayment of the river behind the Lanywa-Sitpin sand bank. Commercial production heretofore has come mainly from sands found at 1700 and 2700 feet.

Discovery of the new deep sand may, upon completion of more wells therein, change the rating of Lanywa. It has, heretofore, been classed as a relatively small field of 400 proven acres. The peak of the field was in 1932, when an estimated total of 702,850 barrels was recovered.

Current production of Indo-Burma Petroleum Company, Ltd., in Indian fields is rated at 2500 barrels per day, coming from 250 wells. The operator has four rigs running there.

It is said this organization contemplates a deep test at Pyaye, also in Burma. Nothing has been announced concerning the objective depth of the proposed test nor the approximate date set for spudding. The well, however, will have to be equipped to cope with pressure conditions in the area, where gas sands have been found at 640 feet, 1490 feet, 2083 feet, and 2525-95 feet. The field is located about 10 miles from the town of Thayetmyo, on the Irrawaddy river.

HYDROGENATION

Following six years of testing in its research laboratory, Mitsubishi Mining Company, Ltd., Japan, announces a process making practicable the hydrogenation of coal. The company has installed a low temperature carbonization plant at its Naihoro colliery, located on the west coast of Karafuto.

The plant consists of two retorts, each having a capacity of 165 tons of raw coal per day, and plans of the Mitsubishi organization to triple that capacity soon, thus cutting down to a certain extent Japan's dependency upon other nations for liquid fuel.

It is interesting to note in this connection that demand for liquid fuel in Japan has increased at a rate of approximately 15 percent for the last nine years, according to government figures, indicating a tripling of demand. These figures do not include requirements of the Japanese. Domestic production takes care of only about eight percent of the demand. Accordingly, official Japanese government sanction has been bestowed upon the plan which has as its objective making Japan self-supporting in liquid fuel by utilizing her coal resources in the process of low temperature carbonization or hydrogenation.

An analysis made for the Journal of the Fuel Society of Japan by M. Fukunga states the yield of products from coal by the hydrogenation process is: oil, 69.8 percent; gas, 10.78 percent, and residue, 11.22 percent.

EGYPT

Information received by THE OIL WEEKLY from Cairo indicates Anglo-Egyptian Oilfields, Ltd., is setting aside certain funds for prospecting for new fields in Egypt provided the Egyptian government comes to a favorable decision as to terms of legislation pending on Egypt's new petroleum law.

Another communication received last week from Port Said, also in Egypt, states that the aforementioned petroleum law still is in draft form, and therefore not obtainable.

Current production of Anglo-Egyptian Oilfields, Ltd., comes largely from Hurghada, locally referred to as Rarquada, a field of about 1000 proven acres, 180 miles south of Suez on the western shore of the Red Sea. Hurghada, which was discovered by Anglo-Egyptian Oilfields, Ltd., in October, 1914, has been declining in production for some time. The field has produced nearly four million tons of crude petroleum, but with definition established on three sides, and granite preventing much drilling below 2222 feet, it is thought the above operator must prospect elsewhere in Egypt if the downward production trend in that country is checked.

Wildcat Showing

COAL TEST HAS OIL IN THE VIOLA; WATER AT FITTS

WEEKLY STAFF REPORT

Ada, Okla.—Carter Oil Company et al were drilling ahead below 6282 feet still in Bromide formation in their Thompson 1, CSL NE NW 34-2n-9e, near Centrahoma in western Coal County. At 6235 feet, 10 feet in the Bromide, operators bailed to bottom to test Viola lime and had approximately 125 feet of high gravity oil. A core from 6235 to 6244 feet resulted in the recovery of one foot of limestone showing a small amount of oil and gas and another from 6250 to 6255 feet yielded a trace of oil. The test is attracting an unusual amount of attention since it is on a large structure the general features of which have been known for many years. Some observers believe that a commercial well could have been made in the Viola lime by acid treatment. On top of the marker it was 730 feet higher than a dry hole six miles to the west.

On November 29 seven wells in the Fitts pool of southeastern Pontotoc County were reported making from two to 45 percent water. These were located in Sections 25, 26 and 36-2n-6e, in a small spot where fracturing or faulting is believed to be furnishing passage for water from beds below the producing horizons.

Continental Oil Company is reported to have asked for bids on approximately 90 miles of eight-inch line to be laid between the company's Oklahoma City terminal and its new discovery well near the town of Jesse in southeastern Pontotoc County. The discovery well, McCarty 1, SE SE NW 12-1n-7e, was reopened Wednesday, November 27, for a flow of 2803 barrels in 5½ hours. Production is from the McLish member of the Simpson formation, topped at 4620 feet and penetrated to 4633 feet, the total depth. Continental has staked locations for the east, south and southeast offsets.

Gypsy Oil Company's Emry 1, SW SW NE 15-2n-6e, 2½ miles northwest of the Fitts pool, was drilling in broken lime at 4252 feet. This test, on a large block taken over by Gypsy from Ramsey Petroleum Corporation, is said to be running lower than wells in the Fitts pool but geological conditions in the Franks-Graben are such that this is not definitely unfavorable.

South Oklahoma

IMPORTANT WILDCATS HAVE FOUND MARKERS HIGH

Ardmore, Okla.—Carter Oil Company et al believed they were making some headway in reestablishing circulation in William 1, SW NE SW 27-2s-3w, deep discovery well in the old Fox pool of northwestern Carter County. This test, bottomed at 8088 feet in Simpson formation, flowed at an estimated rate of 10,000 to 12,000 barrels daily several weeks ago, but the hole bridged and drill pipe was frozen. Oil is being introduced through the drill pipe at from 2800 to 3200 pounds pressure and the returns seem to be gradually increasing. The pipe has moved up several feet at the surface but this is probably due to stretch since an extremely high tension is being held on it.

Five miles northeast of Marietta, in Love County, Amerada Petroleum Corporation and Stanolind Oil & Gas Company's Westheimer 2, SW SE SW 27-6s-2e, was drilling below 2790 feet, apparently still in Viola lime topped at 2427 feet. This test is thought to be running high and is being accorded good chances for production. Several excellent showings were had up the hole.

Sixteen miles northwest of Marietta in the western portion of the county, Sinclair Prairie Oil Company had succeeded in clearing the hole and was drilling below 6985 feet in Stockton 1, SE SE SW 26-6s-2w.

Five miles northwest of here in northern Garvin County, Suggett and McElreath's Allie Camp 1, NE NE SE 22-4n-1w, topped a sandy dolomite which yielded a small showing of oil from 4450 to 4455 feet, cored from 4462 to 4469½ feet and recovered five feet of green shale. It was drilling ahead and reported running considerably higher than any of the deep dry holes which have been drilled in Garvin County. It is on a subsurface high which was checked with seismograph.

British American Oil Producing Company has abandoned hopes for either fishing out or drilling up a swab and has whipstocked out of the casing at 6270 feet at Mary Green 1, SE SW SW SW 23-12n-3w, near the governor's mansion in the north extension to the Oklahoma City pool. This well precipitated a heated leasing and royalty play several weeks ago when it showed for a 5000 or 6000-barrel producer from Wilcox sand. The hole bridged and subsequently the swab was stuck in the pipe. As a result of its showing, 11 tests have been started in the vicinity.

WILDCAT IN WILCOX

Garfield county test has saturated oil streaks

Tulsa — Five and one-half miles south of Covington in the Douglas area of southeastern Garfield County, Sunray Oil Company's Shanks 1, SW SW NE 10-20n-4w, topped second Wilcox sand at 5950 feet, cored from 5952 to 5954½ feet, recovering 21 inches of sand with saturated streaks, and again from 5954½ to 5956 feet, recovered six inches of hard saturated sand. No recovery was obtained between 5957 and 5958½ feet, the total depth, and it was waiting on cement to set on the 6⅝-inch casing at 5936 feet. It is only one quarter mile northeast of production but considered a wildcat test.

Shell Petroleum Corporation's Foster 1, SE NW NW SE 30-27n-8w, 3½ miles southeast of Medford in east central Grant County, was shut down for orders after topping the Bromide member of the Simpson formation at 6004 feet and having 150 feet of salt water from 6006 to 6010 feet, the total depth. This test is on a block of 3040 acres held by Shell Petroleum Corporation for the past nine years and upon which drilling was forced due to lease obligations. The structure was detailed with seismograph.

Two miles northeast of the town of Tryon in northwestern Lincoln County, The Texas Company's Vanderpool 1, NW SW SE 11-16n-3e, encountered Big lime at 3750 feet, Oswego lime at 3805 feet and a break between 3825 and 3840 feet. It was drilling below 3869 feet in lime.

GLENPOOL

Tulsa.—Thirty years ago on Friday, November 22, the discovery well of the now famous Glenpool, 12 miles southwest of here in eastern Creek County, was completed, bringing into existence the second great oil boom in the state and in areal extent one of the largest accumulations ever found in the northern Mid-Continent. One of the pioneer oil men of Tulsa who vividly remember the event is R. F. "Bob" Galbreath, a member of the partnership Chesley and Galbreath, the discoverers. The discovery well, Ida Glenn 1, in SE 10-17n-12e, was spudded in October, 1905, and completed on November of that year at 1650 feet, from which depth it flowed at the rate of 75 barrels of oil per day from the Glenn sand. This sand proved productive over a wide area between the depths of 1650 and 1800 feet and

subsequently Wilcox sand production of importance was found between 2450 and 2650 feet.

The pool reached its peak in June, 1907, when it was yielding at the rate of 117,440 barrels per day. The price of oil dropped to 25 cents per barrel, and as a result of insufficient tankage or outlet many thousands of barrels of oil were lost on the surface. So far as the writer can determine, no one has made an attempt to keep records on recovery from the great pool but its 27,000 productive acres have yielded undoubtedly more than 225,000,000 barrels of high gravity oil. Although Tulsa had experienced some previous activity around the nearby town of Red Fork, it was the Glennpool boom which is generally given credit for transforming the little cow town into one of the leading cities in the Southwest.

OKLAHOMA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARTER COUNTY—		
Twin State & Sinclair Prairie, Cochnever 1, ne se nw 8-4s-3w	10	1030
COMANCHE COUNTY—		
Massey & Gent, Alexander 1, ne sw se 2-1n-11w	*	950
CREEK COUNTY—		
Pure, Kernal 1, sw se ne 30-14n-8e (otd 3388)	107	4006
Big Four Pet. Co., Sanders 1-A, se nw ne 22-16n-9e	*	3052
GARFIELD COUNTY—		
Miller, Muller 1, nw se se 11-22n-4w	¶1½	1116
HUGHES COUNTY—		
Potco Oil Co., Dixon 3, nw ne nw 12-9n-8e	124	1758
LINCOLN COUNTY—		
J. G. Buell et al, Seward 1, ne nw se 25-14n-3e	*	4182
MARSHALL COUNTY—		
G. L. Priest, Cope-Sublett 5, sw se ne 1-8s-5e	15	577
NOBLE COUNTY—		
Sinclair Prairie, Frederick 2, csl se ne 33-20n-2w (pb 5075)	486	5117
OSAGE COUNTY—		
Carl Weaver, 3, nw sw nw 6-21n-9e (pb 1281)	3	1325
Tulsa Osage Oil Co., 2, ne ne sw 14-24n-8e (pb 2258)	35	2315
Kewanee Oil Co., Renald 1, sw sw sw 26-26n-6e	1590	2905
Hale 1, se se se 27-26n-6e	1286	2907
PITTSBURG COUNTY—		
Mid-Western, Trickler 3, nw nw ne 14-7n-8e	¶8	2145
PONTOTOC COUNTY—		
Magnolia, Simpson 5, ne se ne 29-2n-7e	2575	4290
Carter, Richards 12, ne se se 30-2n-7e (otd 4083)	3310	4332
Smith 2, ne ne ne 31-2n-7e (otd 4002)	2915	4222
Moore, Mitchell 2, ne sw nw 31-2n-7e	*	5278
Moore et al, Benton 3, nw sw nw 32-2n-7e	*	5230
Lewis Prod. Co., Bowles 1, se se nw 22-5n-8e	*	480
POTTAWATOMIE COUNTY—		
Smith & Scott, McGee 1, se nw nw 3-7n-4e (otd 3914) (pb 3978)	5	4216
Kedney, Myers 1, sw ne nw 67n-4e	*	lcn.
SEMINOLE COUNTY—		
A. L. Spears, Aldridge 1-A, csw ne 7-6n-8e	100	2839
Tom Phillips, Harjo 1, nw nw sw 34-8n-7e (pb 3218)	95	3437
Deep Rock, Robert 1, sw nw nw 32-9n-8e	*	4590
Carter, Creswell 1, cw½ nw se 2-10n-6e	618	4144
Gypsy et al, Scott 1, cw½ se nw 11-10n-6e	612	4174
Texas Co., Thompson 6, nw nw nw 4-10n-8e	*	lcn.

*Failures; †Junked; ‡Million cu. ft. gas.

Possible Extension

OXFORD DEEP SAND OUTPOST IS SHOWING OIL

WEEKLY STAFF REPORT

Wichita,—Davis, Carlock and Rosespring Drilling Company's Wenrich 1, NE NW SW 23-32s-2e, in the old Oxford pool southwest of Oxford, in eastern Sumner County, set casing at 2955 feet and cored to 2984 feet, the total depth. Oil started breaking through between the surface and flow strings and the latter is to be gun-perforated so that Stalnaker sand can be cemented off. This test is being watched since it is approximately one-half mile southwest of the nearest deep producer.

KANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BUTLER COUNTY—		
Empire, McCann 1, sw sw ne 7-25s-3e	*	3181
Western Kansas O&R Co., Albers 1-A, cw½ se se 21-25s-4e	lcn.	abd.
Penwest Oil Co., Steinhoff 2, nw nw sw 22-29s-6e	38	2214
COFFEY COUNTY—		
Franklin Drlg. Co., Rosillion 2, cel e½ se 1-23s-14e	25	1541
COWLEY COUNTY—		
Wakefield et al's Hanna 1, ne ne sw 2-31s-4e	157	2994
Texas Co., Ed Wheeler 1, se se nw 35-30s-4e	160	2986
ELLSWORTH COUNTY—		
Empire, Schmidt "B" 1, se se nw 14-17s-9w	*	3213
Skelly, Dees 8, se sw sw 14-17s-9w	2267	3190
Carter et al, Grath 1, ne ne sw 23-17s-9w	1128	3196
Slick-Pryor & Lockhart, Heiker 2, sw sw nw 25-17s-10w	*	3295
GREENWOOD COUNTY—		
Sivil et al, Deiuer 1, se se nw 7-27s-12e	*	1926
Ward McGinnis, Crawford 1, cne se 8-28s-12e	*	1750
KINGMAN COUNTY—		
Skelly, Leisman 6, nw nw nw 29-27s-10w	¶13	2150
LOGAN COUNTY—		
Alma Pet. Co. & McNeely, Watchorn 1, csw ne 13-15s-33w (pb 3800)	*	5756
McPHERSON COUNTY—		
McBride, Inc., Whitwright 3, cnw sw 30-19s-1w (otd 2945)	352	2967
RUSH COUNTY—		
Northern Natural Gas Co., Crowell 1, cne¼ 23-18s-16w	¶37	3516
SUMNER COUNTY—		
Slick, Pryor & Lockhart's Peasel 4, se ne nw 33-31s-1w	1658	3672
Shell, Scroggins "B" 1, ne sw sw 14-32s-2e (otd 2104)	662	2988
TREGO COUNTY—		
Hansa & Lauck, Lang 1, se se nw 1-14s-21w	*	4134
WOODSON COUNTY—		
Saco Oil Co., Klick 2, ne sw sw 20-25s-14e	205	1432
Sheedy Oil Co., Specht 1, ne ne nw 34-25s-14e	*	1581

*Failures; †Junked; ‡Million cu. ft. gas.

Cowley County, in the eastern portion of the state, was the only Kansas area to receive a discovery completion during the week when Wakefield et al's Hannah 1, NE NE SW 2-31s-4e, produced at an initial rate of 157 barrels from Bartlesville sand drilled to 2994 feet. Weather conditions throughout the state were such as to hinder operations materially and only 21 tests were reported to have reached completion stage. Of these 10 were oil wells rated initially at 6652 barrels, two were dry gas wells with combined initial volume of 50,000,000 cubic feet, eight were dry holes and one was an abandoned location. The 52,634 feet of drilling involved in the completions included 14,634 feet in four wildcat tests, 906 feet in two old wells drilled deeper and 37,094 feet in the remaining 15 completions.

Rice county led the state in new work with eight first reports; Russell County was second with five; Ellis and Reno Counties had three each; Butler, Ellsworth and McPherson Counties, two each; and Cowley, Rush, Sedgwick and Sumner Counties, one each; a total of 29 first reports from 11 counties.

Dickey Oil Company et al's Wilbur 1, SW SW SW 15-27s-1w, two miles west of Wichita in central Sedgwick County, had a trace of Misener sand at 3523 feet, went into sandy Simpson dolomite at 3524 feet and cemented eight-inch casing at that point. Top of the Wilcox sand was encountered at 3225 feet and the hole cored to 3537 feet, recovering sand with thin saturated streaks. Seven-inch casing will be run and the test standardized.

55 LOCATIONS

Tulsa, Okla.—Continued bad weather throughout the northern Mid-Continent made it difficult for scouts to cover the outlying districts and as a result the reports of the week probably are not truly indicative of field conditions. Since a large percent of the new work is announced from a few oil centers the state held to its average with 55 first reports from 17 counties. Pontotoc County, through activity in the Fitts pool alone, held the lead with 12 first reports; Osage County was second with seven; Carter and Stephens Counties had five each; Creek County, four; Hughes, Marshall, Pottawatomie and Seminole Counties, three each; Caddo and Kay Counties, two each, and Grant, Jackson, Kiowa, McClain, Noble and Okmulgee counties, one each.

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Big Sayre Well

WINKER COUNTY ACTIVE SPOT GETS 1834-BARREL FLOW

NORTH & WEST TEXAS

WEEKLY STAFF REPORT

Midland, Texas.—The Sayre field, Winkler County's most active area during the past year, recorded one of its largest producers when Mid-Continent Petroleum Corporation's J. F. Howe 6-A gauged 1834 barrels of high gravity oil in 24 hours after shot in sandy-lime pay at 2794-2963 feet. It is on the east edge of the mid-section of the field. Independents own the majority of the acreage now on production, and are carrying on a continuous drilling program with one well to 10 acres. The field extends in a north and south direction about 1¾ miles, and promises to be more than one mile in width. No dry holes have been drilled within, or near the structure. Harry Adams Corporation and E. C. Hitchcock & Sons, operating jointly, and Gulf Production Company are attempting extensions to the west and northwest, respectively.

Sun Oil Company's J. A. Crow 1, south central Winkler County wildcat, encountered a prolific flow of sulphur water in deepening to 3578 feet. It will be plugged back to test saturated lime passed up at the 3200-foot level. This company's Walton 1, located west of the Keystone field, failed to increase its oil production after 220-quart nitro shot in sandy-lime formation at 3245-3391 feet. Cleanout work was in progress late last week with 3100 feet of fluid in the hole, which was plugged back from 3456 to 3391 feet. Gulf Production Company has listed its Keystone 8 and 9, both located southeast of production in the Keystone area, as failures after drilling to the sulphur water level in the dolomite lime zone.

Ector County

The Scharbauer-Goldsmith field, which promises to become one of the largest and most prolific structures in Ector County, added a new oil producer and another active test the past week. Gulf Production Company's Goldsmith-Scharbauer 3, SEc Section 22, Block 44, T&P Ry. Survey, T-1-S, west offset to a producer, tested 18,932,000 cubic feet of sulphur gas daily at 4072 feet, or 969 feet sub-sea, and developed 150-barrel daily flow of oil when drilling was halted at this depth to change connections. It will be deepened.

Progress on Gulf Production Company's Goldsmith-Scharbauer 2, SEc NE Section 15, which occupies a 125-foot higher structural position than the above producer, has been delayed by a fishing job at 3968 feet. It is making 22,500,000 cubic feet of sulphur gas daily. Cable tools are in service on both wells, although rotary equipment was used on all previous tests. Phillips Petroleum Company and Pure Oil Company, joint owners of offset producers to the above tests, have moved in rotary rig to drill Clyde Cowden 3, located 330 feet from north and 1320 feet from west lines Section 26, or a minor southeast outpost location.

North portion of the Waddell field, Crane County, registered another prolific oil producer through completion of Gulf Production Company's W. N. Waddell 11, C NE Section 10, Block B-23, P. S. L. Survey, in dolomite lime at 3502-3515 feet. On three-hour open casing gauge the well flowed 132 barrels of 34.5 gravity oil the first hour and increased to 172 barrels the last hour, and was credited with making 24 barrels during the last five minutes. It was drilled to a sub-sea depth of 736 feet. It is less than a half-mile southwest of Magnolia Petroleum Company's Edwards 2, which recently made 1621 barrels of oil in four hours through open casing, with the hole bottomed at 759 feet below sea level.

Operations are to be started shortly on a 4500-foot wildcat test in central Upton County by John I. Moore, San Angelo, and associates on a block of leases held by California Exploration Company. Location is on the J. H. Tippett (Halff) land, C NE Section 58, Block Y, T. C. Ry. Survey. J. L. Greene, Midland, Texas, and R. G. Greene, Los Angeles, will be associated with Moore in this Permian lime test, and operations will be carried under the name of Greencliff Oil Corporation.

Resumption of exploration work on the White and Baker ranch, largest block of fee land lying west of the Yates field, Pecos County, has been authorized by Cardinal Oil Company, San Angelo. Equipment has been spotted for the drilling of a test in NEc Section 43, Block Z (HE&WT Ry.) T. C. Ry. Survey, or one mile southeast of the company's shallow gasser completed earlier this year. Humble Oil & Refining Company et al completed a 9811-foot failure in the Ordovician in June, 1934, about midway between the two locations. In spite of this deep failure the ranch is not considered eliminated for production in the Ordovician.

H. Krupp, El Paso, is making preparations to launch a wildcat on a block of acreage previously reported as being assembled in Hudspeth County. Location is to be on the Thaxton tract, Section 34, Block 74, T&P Ry. Survey, Tsp. 6.

Grisham-Hunter Corporation, Abilene, Texas, has concluded lease trading on a wildcat block in Garza County, and will start work on a lime test shortly in SWc SE Section 3, Block 5, K. Aycock Survey, near a small oil pumper completed by M. L. Richards et al early last summer.

WEST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ANDREWS COUNTY (Means Field)—		
Humble, R. M. Means 6	345	4555
CRANE COUNTY (Waddell Field)—		
Gulf, W. N. Waddell 11	4200	3515
COCHRAN COUNTY—		
Humble, Slaughter 1	*	4909
CROCKETT COUNTY—		
E. C. Leslie & Hiller, J. S. Todd 1	*	821
ECTOR COUNTY—		
Westbrook Oil Corp., T. B. Yarbrough-Gulf 1	*	4195
JONES COUNTY—		
T. K. Simmons et al, Beatty 1	*	2265
Ungren & Frazier, A. Dorsey 3, sec 6	1200	2002
PECOS COUNTY (Yates Field)—		
Marathon, I. G. Yates 30-B	3650	1196
UPTON COUNTY—		
Gulf, J. T. McElroy 122	138	2972
Humble, L. W. Pollok-Gulf 1	* 11,144	
Web-Ray Oil Co. (W. C. Ray), Cordova Union 1	300	2125
WARD COUNTY—		
Atlantic O. P. Co., Monroe 2	366	2606
W. A. Black et al, A. B. Gordon 2	1500	2535
California Co., I. B. McFarland 1	25	2580
S. Caprito et al, Hardage-Wilson 2	314	2502
Humble, American Nat'l Life 3	¶8-63	2600
WINKLER COUNTY (Halley Field)—		
Skelly Oil Co., S. M. Halley 5	¶5-52	3152
WINKLER COUNTY (Keystone Field)—		
Gulf, Keystone 8	*	4464
Keystone 9	*	4126
WINKLER COUNTY (Sayre Field)—		
Mid-Continent Pet. Corp., Howe 6-A	1834	2963
Sayre Oil Co., Howe 1-C	267	2994
Sinclair Prairie, Cummins 5	†	2970

*Failures; †Junked; ¶Million cu. ft. gas.

TEXAS PANHANDLE

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CARSON COUNTY—		
Danube Oil Corp., E. F. Bryan 1	20	3167
Empire G&F Co., M. Simms 1-B	¶36	3178
GRAY COUNTY—		
Bradshaw O&G Co., W. W. Harrah 9	352	3210
Empire G&F Co., H. T. Bender 7	307	3238
W. H. Taylor Oil Co., W. H. Taylor 2	133	2960
Texwell Oil Corp., L. C. McConnell 3	374	3260
HUTCHINSON COUNTY—		
Int'l Pet. Corp., T. Lewis-Badger 25	630	2965
Phillips Pet. Co., Johnson-Eddie 1-A	¶23	2603
Johnson-Hap 1	¶12	2668
J. L. Williams-Evelyn 1	¶24	2640
Wm. Yake 5	¶27	2660
Texas Plains Oil Co., G. A. Whittenburg 1	90	2904
Travelers Oil Co., W. B. Haile 1	20	3060
Tripplehorn Bros., R. C. Ware 4	310	3080
MOORE COUNTY—		
Anderson-Kerr Pet. Co., W. H. Taylor-Gulf 1-C	¶11	3502
Texoma Nat'l Gas Co., R. S. Coon 5-M	¶13	3489
WHEELER COUNTY—		
Helena O&G Co., P. M. Keller 21	3352	2534
Sunray Oil Co., L. Flowers 1	¶9	2203

*Failures; †Junked; ¶Million cu. ft. gas

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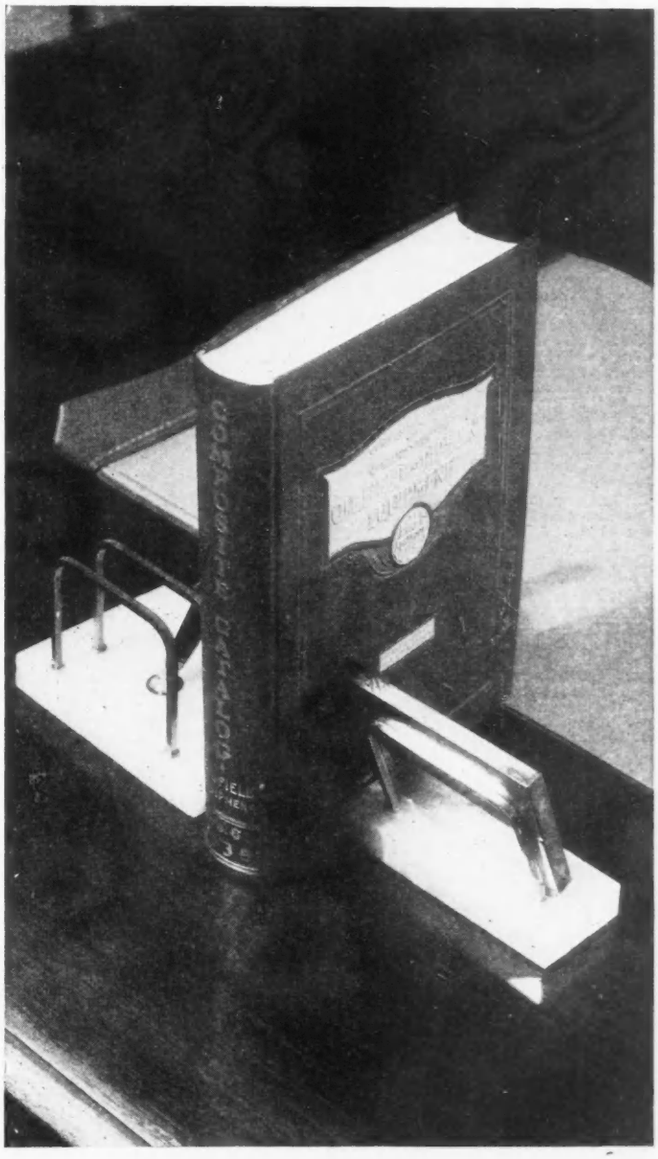


THE GULF PUBLISHING CO. Houston, Texas

Deep Test Quits

HUMBLE'S UPTON WILDCAT WAS NEARING DEPTH RECORD

San Angelo, Texas.—Search for deep production in West Texas, Ordovician lime horizon was abruptly terminated in one test and brought negative results in a second project the past week. Plugging orders were issued for Humble Oil & Refining Company's L. W. Pollok-Gulf 1, northeastern Upton County wildcat, at 11,144 feet or 8386 feet below sea level, where recovered samples definitely identified the formation as bein gearly Pennsylvanian limestone in age. Without the aid of an abnormal thinning of formations, geologists predicts that this test would be required to surpass all previous depth records in proceeding to the Ellenberger, or lower section of the Ordovician series, the original goal. Gulf Production Company's J. T. McElroy 103, located on the west border of the county, drilleld to 12,786 feet early this year in proving the Ellenberger to be barren of oil or gas production.

Humble Oil & Refining Company's deep test displaced a dry hole in Roumania from fourth position among record depth holders, and was approaching third place rank held by Oklahoma's Binger project. The former's Pollok ranch test, located at center NW Section 4, Block M, E. L. Ry. Survey, near the heart of a 70,000-acre leasehold, was drilled with a company-owned heavy-duty rotary. It registered a structural low position on the Permian lime. No casing was used below 8728 feet, where a string of 8⅝-inch pipe was secured with 1000 sacks of cement.

Sulphur Water in Crane Test

Prolific head of sulphur water from the Ellenberger limestone eliminated Gulf Production Company's W. N. Waddell et al 1, C NW NW Section 4, Block 27, P. S. L. Survey, western Crane County, as a strong contender for production in the Ordovician. Midweek production test at 6450 feet, or 3896 feet sub-sea, through 7⅝-inch casing cemented at 5894 feet, failed to reveal oil or gas with the mineral water. The hole is to be plugged back to the 6300-foot level to try and shut off the water and test oil saturated zone revealed in formation recoveries while coring the entire Ordovician lime horizon, which was entered near the 6060-foot level. Series of drill stem tests made at intervals after topping the Simpson at the above level scored negative results. However, casing was landed after reaching the projected goal so as to permit a decisive production test.

Expect More Drilling

Even though Gulf Production Company meets with failure in plugging back its second try for Ordovician production in the Permian Basin, belief prevails among geologists that the abnormally high structural relief for the region now established justifies additional exploratory tests. First reports on the high Ordovician lime appearing in the Waddell test were discounted by most observers as it was generally believed that a decisive deep test would require from 8000 to 10,000 feet of drilling. Gulf Production Company holds leases on all acreage to the northeast, north, northwest and west of its deep well site, and participated in the scramble for acreage made early in October to the south and southeast into Pecos County. In all probabilities the company will follow through on the geological information revealed by the Waddell well and make one or more Ordovician tests before leases expire on its large blocks in the region.

Starting date for John I. Moore and others' previously announced Ordovician lime project on the T. C. Barnsley tract, C SW Section 43, Block 32, P. S. L. Survey, about 8½ miles southeast of the Waddell test, has been advanced to the first of the year. It centers upon a block consisting of about 5100 acres and directly in the most popular trend of play for deep production. A number of majors have bought lease protection around the Barnsley test, which is contracted to go to 6500 feet, unless halted by igneous rock, or water in the Ellenberger limestone.

NORTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
ARCHER COUNTY—		
L. T. Burns et al, Albers 12-A, blk 117	30	1242
Albers 13-A, blk 117	15	1242
Virgil Seay 1, blk 56	*	1480
Fraser & Proctor, W. M. Coleman 1, sec 81	*	1031
C. B. Long et al, J. H. Turbeville 3, sec 156	25	1524
Panhandle Ref. Co., J. L. Anderson 1, sec 19	55	1420
Perkins-Cullum Oil Co., Falls 205, blk 37	50	1135
Pet. Producers Co., J. T. Richardson 7-D, blk 1	75	1266
J. E. Sampley et al, G. Williams 1	*	610
Wilson & Ligon, J. M. Powell 1, blk 116	60	1231
BAYLOR COUNTY—		
Consolidated Oil Co., Portwood 2-S, sec 3139	320	1421
Geo. B. Ray & Staniforth, Portwood 32-C, sec 1574	1080	1350
Portwood 33-C, sec 1574	960	1355
COOKE COUNTY—		
Bridwell Oil Co., R. W. Trew 4	75	1430
R. B. Harper et al, R. Yosten 1	*	260
Hudspeth-Harvey-Bass, Truebenbach 6	30	888
Hutton & Hess, C. M. Martin 1	*	1178
F. W. Merrick, Inc., Hess 8	50	882
A. Knabe 15-B, blk 6	10	840
Mid-Tex Prod. Co., D. Wheelock 1-C	15	1319
Pet. Producers Co., W. H. Campbell 2	*	825
A. D. Robinson et al, J. H. Otto 4-B, blk 6	45	824
Woodbine Oil Co., L. Rhomer 2	*	1025
JACK COUNTY—		
Gray Drlg. Co., J. H. Shown 3	3	274
E. R. Sewell et al, D. D. Sewell 1, blk 1	10	295
MONTAGUE COUNTY—		
Benton & Holmes, Davenport 14-B	100	1688
Bridwell Oil Co., F. H. Begley 4-B	108	1785
The Texas Co., Cunningham 6-A	20	928
WICHITA COUNTY—		
Bourbon Royalty Corp., L. N. Lockridge 1	*	806
Geo. Procter et al, F. M. Weaver 1	*	1338
United Prod. Co., W. L. Hodges 1-C	*	1816
Waggoner Ref. Co., Waggoner Est. 2-AA, sec 148	35	1086
Woods & Leslie, N. J. Duckett 1, blk 14	*	715
YOUNG COUNTY—		
David S. Johnson et al, E. Hall 2	100	728
D. M. Knox et al, E. Taylor 3, sec 3407	25	2738
Mook-Tex Oil Co., W. B. Gegg 1	125	738
Mudge Oil Co., W. B. Harrison 6, sec 3407	25	2726
Nash-Windfohr Oil Corp., E. Atwell 3, sec 3407	240	2767
Peery-Woody & Boller, N. Prideaux 1	*	755
Underwood Drlg. Co.-Campbell, Campbell 8-C, sec 3401	240	897

*Failures; †Junked; ‡Million cu. ft. gas.

COMPLETING WORK

500 miles of pipe line renovated by Magnolia

Dallas.—Recondition work on more than 500 miles of eight-inch trunk lines carried on since last March by Magnolia Pipe Line Company between Corsicana and Beaumont and Luling and Beaumont will be terminated shortly. Work on the Corsicana-Beaumont multiple system has not been completed, and will be resumed with the arrival of favorable weather next spring, according to T. J. Fitch, vice-president and manager.

Renovation of the company's carrier system represents the largest pipe line expenditure made in Texas this year, and because of the nature of the task provided work for a sizeable crew of skilled and common laborers.

Pipe lines included in the reconditioning project were removed from trenches for the entire length. Laborers and machines were employed in cleansing the surface of the line of old insulation. Weak spots were patched, or half soled by welding crews, or in extreme cases of corrosion were replaced with new pipe. The conditioned pipe was given a new coating of insulation prior to being restored to its original trench.

Work on the company's Luling-Beaumont unit, involving about 225 miles of eight-inch line, will be terminated early in December. However, a gang was dispatched recently to overhaul 15 miles of line in the Nueces River bottom lands on the Mirando-Luling unit, as soil conditions have caused numerous weak spots to develop in the line.

Finishing touches are being placed on the reconditioning of the company's eight-inch line No. 3 between Corsicana and Beaumont, a distance of 240 miles. A parallel carrier, known as No. 2, has been worked over for about 100 miles, extending north from Beaumont to Cleveland station, and between Corsicana and Simsboro stations. One gang will remain at work on this line, with weather permitting, until the remainder of the year, according to reports.

Shorter List

MORE NON-FLOWING WELLS APPEAR IN EAST TEXAS

WEEKLY STAFF REPORT

Tyler, Texas.—Eleven of the 42 oil producers recorded as completions in the East Texas field the past week failed to develop flowing production. There were also two dry holes drilled on the edge of production in Smith and Upshur Counties, making a total of 44 completions as compared to 65 the previous week.

High ratio of non-flowing wells appearing in the current list of completions is due to the bulk of the field work centering on leases held by independents along the flanks of the structure, and in the known stripper-well zones. Independents accounted for 31 of the 44 completions, and their contribution included all but one of the wells that failed to flow natural.

Several outpost locations in process of completion along the northwest flank of the structure promise to open up considerable new territory for development. E. C. Johnson et al's A. R. Callahan 1, SEc 30-acre lease, A. F. Sheppard Survey, is showing for a commercial pumper in sand at 3683 feet, with an elevation of 389 feet. It is about 1400 feet north by west of nearest production. Ben G. Barnett and others' G. C. Cannon 1, SEc 40-acre lease, J. M. Tallent Survey, about 2100 feet west by north of production, was rated at 15 barrels daily from sand at 3684-3688 feet. Additional sand was logged in deepening with cable tools to 3690 feet, or 3312 feet sub-sea, and a commercial producer is forecast. Harry Morris et al's E. H. Brawley 1, Jackson Crouch Survey, made an unsuccessful try at extending production about 4700 feet to the northwest, and was abandoned in Red Beds at 3712-3722 feet. It has an elevation of 331 feet.

Sells Petroleum, Inc.'s J. B. Wilson 8, located on 50-acre lease on west line of production in the Juan Vargas Survey, Smith County, tested water in the sand section topped at 3820 feet, or 3322 feet sub-sea, and was abandoned at 3853 feet.

Agey Drilling Company's Mrs. John McWilliams 1, NWc 370.2-acre lease, Juan C. de la Vina Survey, reported last week as a probable three quarter-mile east extension for the Joiner area, Rusk County, swabbed 50 barrels of oil after cementing pipe at 3522 feet. Broken oil sand was logged at 3549-56 feet, and the hole was drilled into lime at 3634-72 feet. Pumping equipment will be installed.

Sun Oil Company's Mattie Burns 3, located on south line of 109.98-acre lease, Juan Vargas Survey, Smith County, provided a minor production extension in registering a natural flow of 25 barrels of pipe line oil per hour after drilling with cable tools to a sub-sea depth of 3327 feet. Top of Woodbine was logged at 3738 feet, and penetrated less than one foot because of the bottom hole water hazard.

PRESSURE UP

One-pound pressure gain in East Texas field

Tyler, Texas.—Weighted average reservoir pressure in the East Texas field registered a minor increase, the first recorded since last January 1, according to a survey by the East Texas Engineering Association late in October. Bottom-hole pressure readings taken on 310 key wells scattered at intervals over the huge structure averaged 1195 pounds after making corrections for temperature and to a subsea depth of 3300 feet. This represents a one-pound gain over the October 1 survey, which established a new low record.

Substantial cut in excess crude production since the fore part of October is borne out by this check in the decline of bottom-hole pressure averages. Heavy crude withdrawals in the vicinity of a key well materially reduces the pressure reading. The last survey had the benefit of the most orderly production that has prevailed in more than a year, and pressure gains were noted in areas that have heretofore been exposed to periodical unrestricted flow.

Advance of the salt water table along the west and northwest flanks of the structure is a contributing factor in checking the slump in bottom-hole pressure. Edge leases now producing considerable water have not recorded pressure declines in proportion to those in the central and east portion of the structure. Water encroachment has been a big factor in forcing many of the "regulars" within the ranks of the hot oil operators to abide by proration regulations to avoid premature depletion of their leases. Under orderly production withdrawals water intrusion is not a serious menace in the field. Many producers have appeared on every water well survey compiled within the past five years and continue to make their proration allowable without the aid of lifting equipment. On the other hand numerous wells have been forced to utilize pumping equipment through improper operation.

Botttom-hole pressure of the East Texas field has declined 36 pounds since the first of the year, or an average of 3.27 pounds per month. Readings reported on April 1 and May 1 were identical, but on June 1 showed a four-pound decline, making the weighted average 1213 pounds, while a seven-pound loss the following months proved to be the greatest for the current year.

Engineering department of the Texas Railroad Commission conducts a private survey of botttom-hole pressure each month prior to the state-wide proration hearing. Readings concluded November 12 showed an average of 1210 pounds, with corrections made to the 3300-foot contour, or a loss of 5.7 pounds. However, only 34 of the 19,200 wells in the field were surveyed in arriving at the estimate.

EAST TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
JOINER AREA—		
Adams & Lyles, Inc., Kersh 6 (34-ac)	5400	3635
Barbare et al, Lambert-Gilstrap 1-A (2-ac)	80	3568
Genro Drl. Co., Worrell 1 (12.26-ac)	60	3603
Great State Oil Corp., Smith 8-H (3.89-ac)	40	3636
Howell & Hawkins, Propes 3 (26½-ac)	240	3573
Luling O&G Co., Alford 2 (10-ac)	500	3700
McCutchin et al, Pinkston 2	4600	3670
R. Parker et al, M. Watkins 1 (7.7-ac)	25	3614
Retsal Drl. Co., J. R. Lambert 1 (8-ac)	70	3613
Sal-Mar Oil Corp., J. R. Irion 4 (10-ac)	5000	3759
Sells Pet. Inc., J. B. Wilson 8 (50-ac)	*	3853
Sinclair Prairie, G. Patterson 8 (162.67-ac)	7500	3667
J. B. Sneed & Co.-O. L. Greer, Ed. Rollins 1 (72-ac)	6500	3677
Sun, Burns 3 (100-ac)	600	3739
Lee 13 (147-ac)	5500	3623
Texas Co., Turner 6 (30-ac)	500	3702
Texas Gulf Prod. Co., Hodnett-Melton 7 (134.84-ac)	7500	3691
KILGORE AREA—		
Amarada, Jenkins 5 (50-ac)	4500	3529
Arcadia Ref. Co., Jeffery-Raitman 3 (30.2-ac)	600	3754
Cook Drl. Co. (E.C.R. Oil Co.), Mayfield 4 (33.2-ac)	100	3640
Genro Drl. Co., Laird 1, Lot 10	125	3560
Humble, Sexton 31-B (258.6-ac)	7000	3771
Hurtle Oil Co., Williams 10-B (112.71-ac)	100	3618
Lee & Burnett, Cole 1 (2-ac)	9000	3566
Louisiana O.R. Corp., Griffin 10 (71.77-ac)	9500	3577
Alex McCutchin et al (Howard Pet. Corp.), Elder 1 (20-ac)	450	3530
Sun, Walker 3 (382-ac)	1500	3691
LONGVIEW AREA—		
Arkansas F. O. Co., McPherson 11-B (72.4-ac)	11,000	3529
Atlantic, Moyers 18 (128.2-ac)	7200	3600
Burk Roy. Co., Moore 4 (15-ac)	10,500	3585
Conservative Oil Co., Mackey-Humble 12 (147.1-ac)	1500	3693
Humble, Harris 24 (175.18-ac)	5000	3518
W. C. Mackey 24 (198½-ac)	1500	3595
Kewanee O&G Co., Fee 23 (168.77-ac)	10,000	3595
Joe Long Drl. Co., Owens 4-C (52-ac)	6000	3652
Marcus Oil Co.-C. G. Dunham, Matthews 4 (16.78-ac)	7500	3592
Monday Oil Co., Younse 15 (86-ac)	600	3677
Harry Morris et al, Brawley 1	*	3722
Omega Oil Co., Nicholson 4 (25-ac)	7200	3602
A. O. Phillips et al, Victory 2 (35.6-ac)	6000	3609
Selby O&G Co.-Lewis Prod. Co., Snavely 25-B (361.2-ac)	9000	3574
Shell, Moore 29 (303.7-ac)	7500	3570
Moore 31 (303.7-ac)	7200	3555
Superior Oil Co., Pritchard 5-B (40-ac)	11,000	3561

*Failures; †Junked; ‡Million cu. ft. gas.

New Field Looms

JIM WELLS COUNTY TEST IS A GAS WELL IN FRIO

WEEKLY STAFF REPORT

Corpus Christi.—A new gas field in western Jim Wells County and excellent showings in key wells in fields of both San Patricio and Nueces Counties featured a busy week in the Corpus Christi district of the Gulf Coast. The outlook now is for the development campaign to surpass the heavy program underway since the first of the year.

Roger Putnam et al's E. A. Hawkins Estate 1, 1½ miles east of the town of San Diego, Jim Wells County, cored sand at 2972-86 feet, which carried a heavy gasoline odor and no water. Drill stem test, however, developed 125 pounds dry gas pressure in eight minutes, after which casing was set for completion. The sand is identified as being definitely in the Frio formation. The potential producer is located 3100 feet north of the railroad and is in Share 3 of the San Diego Grant.

Three miles northeast of the Clara Driscoll field, newest producing area in western Nueces County, Masterson and Associates have spudded in and set 564 feet of surface casing in Walt Eschberger 1, SW NW NE Section 37. The geological picture worked on this block indicates that the discovery well of the field, completed several days ago is at the south end of a large structure, extending far enough to the north to include the new test. It will be watched with considerable interest due to the fact that its completion as a producer will prove another large field for this county, possibly the largest of the entire group. Acreage is well divided and a heavy drilling campaign likely would result. In addition, the discovery well showed a heavy initial flow, one of the largest of any wildcat completed along the entire Trans-Salt Dome trend.

Texon Royalty Company's Taggert 1, NE corner Block 5, Section 401, one mile west of the Saxet field, Nueces County, passed through a gas sand which showed some pressure on drill stem tests made between 3968-80 feet. It cored another sand at 4014-24 feet, carrying an oil show. The sand failed to show anything encouraging and the well is drilling ahead.

Baldwin field recorded two disappointments. Magnolia Petroleum Company's J. A. Baldwin 4 went to 5195 feet, and failed to find production. It plugged back and set seven-inch casing at 3244 feet. Casing will be gun perforated and the well completed in the 3200-foot sand as a gasser. It will be the first completion in the sand, other wells drilling through it, although showing gas. Gilcrease Oil Company's Sanders 3, failed to pick up the sand and at 4098 feet ran an electric formation tester, which failed to indicate the regular production. It is drilling ahead. One producer was completed in this field during the week.

Saxet field reported three oil producers, two in the 4800-foot sand and one in the 4400-foot horizon. Seven rigs are running within the present proven territory.

J. K. Culton's Savage Russell 1, west offset to the discovery well in the Saxet Heights field, Nueces County, and second test to be drilled in this field topped the sand at 4055 feet and had a sand section 4383 feet. It is bottomed at 4085 feet with casing set at 4076 feet. It gives promise of being an excellent producer. On November 29, the well was cleaning, flowing at the rate of slightly more than 10 barrels per hour, 90 percent oil, through 5/32-inch choke, showing pressure of 600 pounds on tubing and 700 pounds on casing.

Culton has made a location for Whelan 1, third well for the field. It is located 330 feet from the east line and 230 feet from the south line of the Margaret Whelan 100-acre tract in the Villareal Survey, a northwest offset to the above well. It is digging pits.

In San Patricio County, main interest centers around Benedum and Trees' Mrs. E. H. Welder 1, Section 34, three miles east of the Plymouth field. The well was last coring below 7125 feet. It has had a number of sands showing gas to the present level.

In the Plymouth field, proper, six wells are in the final stages of completion or already have been completed in the 5600-foot sand. A total of 12 rigs are running continuously in this field, which has been defined in only one direction.

MAURITZ FAILURES

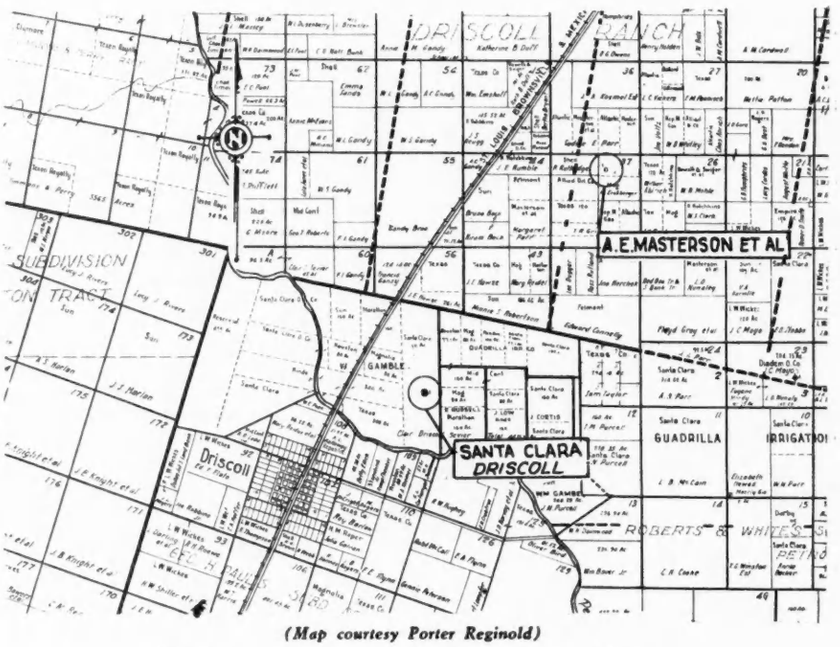
New Jackson County pool apparently limited area

San Antonio.—Mauritz field, Jackson County, apparently will be very limited in area, being defined in two directions and an outpost test in another direction is not too promising. Texas Pacific Coal & Oil Company and Venza Oil Company's J. M. Rosborough 1, one half-mile south of the discovery well, is shut down for orders at 6102 feet, below the sand in the discovery well. Shell Petroleum Corporation's Mauritz Brothers 1-A, one half-mile northwest of the discovery, is coring at 6765 feet.

In Calhoun County, a few miles south of the above field, Continental Oil Company has spudded in its third test on a heaving shale prospect near Seadrift. It is Moody 3, just west of Moody 2, which was abandoned at 7384 feet unable to negotiate the shale.

Crown Central Petroleum Company's Wilson 1, only active operation in the Port Lavaca field, Calhoun County, is still tied up trying to recover stuck drill stem in sidetracked hole at 6150 feet, total depth being 6315 feet.

Placedo field, Victoria County, offered nothing more than routine operations during the week. The trend of development seems to be to the southwest, where geophysical work is said to indicate the major portion of the producing area.



(Map courtesy Porter Reginold)

Showing location of latest strike in Nueces County

More Duval Strikes

NEW PRODUCING TERRITORY ADDED BY OUTPOST WELLS

San Antonio.—Two key outpost wells in the Government Wells district of Duval County give promise of considerable new oil producing territory in the Jackson formation. One well has been completed as a gasser in the Government Wells sand, while the other is showing for an oil producer in the upper Hockleyensis sand.

The California Company's Gruy Estate 1, 330 feet from the north line and 2597 feet from the west line of Section 157, two miles east of the Kohler field, has been completed for about 25,000,000 cubic feet of dry gas per day from the Government Wells sand at 2541-71 feet. The well had drilled ahead to 3777 feet, but plugged back and perforated casing. The regular production of the field is in the Cole sand around 1800 feet.

The company has made a location and is moving in rig for Gruy 2, located 990 feet north and east lines of Section 157, or about 1900 feet southeast of the producer. It is being drilled on the theory that it is sufficiently down dip to provide oil production.

The other important strike is Westheimer and Daube's L. Campos 1, SW corner Section 224, about one half mile east of the Seven Sisters field. The well cored the Hockleyensis sand at 2223-2228½ feet and on a drill stem test from 2210 to 2228½ feet, it showed 2200 feet of pipe line oil in 10 minutes and set casing. It is ready to drill plugs. The elevation is 531 feet derrick floor, and the top of the Jackson is 1720 feet.

The interesting feature of the well is that it is in the discovery sand of the field, in which Harvey and Henderson's Chernoskey 1 is producing. Two offsets to the discovery well failed to find production in either the upper sand or the Government Wells sand and were abandoned. In fact, no other well in the field has produced in the upper sand until the drilling of the Campos test, which is located more than a mile southeast of the original producer. An abandoned well, drilled through the section, is located about midway between the two wells.

The regular production in this field is Government Wells sand at about 2500 feet with producers flowing initially from 15 to 92 barrels per hour on choke. The newest producer, in addition to showing production in the Hockleyensis sand, is logged as a possible producer in the Government Wells sand. The east dip on the top of the Jackson formation from the Santa Clara Oil Company's Welder 1, discovery Government Wells sand producer to the newest well, slightly over one half mile, is only two feet, suggesting a tremendous flattening.

Wildcatting holds sway through the whole Government Wells sector of Duval and McMullen Counties. Several key wells, however, were taken out of the picture when they were abandoned. T G & M Drilling Company's Davidson 2, Section 90, 3½ miles south of the Seven Sisters field and northeast of Loma Novia, has been abandoned at 3015 feet. It showed 1800 feet of salt water in 16 minutes from sand at 2887-2945 feet. T. P. Morgan's Welder 1, Section 591, one mile south of the same field, topped the Mirando sand at 2803 feet, showed salt water and was abandoned at 2851 feet. It also showed salt water in the Government Wells sand.

Across the McMullen County line, Marzo Oil Corporation's E. R. Hagist 1-B, Section 6, topped sand section at 2036 feet and is bottomed at 2061 feet, where a drill stem test is scheduled.

The Seven Sisters and Loma Novia field provided less than their usual share of new producers during the week, there being a total of seven reported in the two fields with a combined initial flow of 4115 barrels per day.

Following down trend of the Mirando district, Lopez and Cole fields of Webb County, provide the bulk of activity with several important wells being abandoned as failures in the wildcat sectors of this county. In the Lopez field, several rigs are running in the fairway zone, being divided as follows: Mills Bennett, one; Montour Production Company, one; G. G. Mortimer, two; Sierra Oil Royalty Company, one; Superior Oil Company of California, one. A couple of deals being completed will bring another operator into the main field as well as one outpost well.

The Cole field has apparently reached its climax of activity, The Texas Company, J. J. O'Hern, James P. Nash and O. W. Killam each drilling one well and the Magnolia Petroleum Company three, a total of seven operations for the district. Magnolia Petroleum Company abandoned Benavides 5-X, Block 119, failing to find production to a total depth of 3891 feet.

In the Cuevitas field, Starr County, southern-most of the Mirando group of fields, Sun Oil Company has resumed development. The newest test is M. Guerra and Sons 8-B, located 1980 feet north and 800 feet west of Guerra 6-B, rig is being moved in.

Pettus Tests Show

WILDCATS PROMISE ADDITIONAL OIL FIELDS

San Antonio.—Pettus district interest centered around two wildcats in Goliad and Bee counties, which were in the final stages of completion late in the week, one giving indications of providing oil production in a present gas field and the other being the possible opener of a new deep field.

D. C. Smith's Willis A. Robertson, NW corner T. B. Barton Survey, Bee County, is in Pettus sand at 3051-59 feet, elevation 393 feet, derrick floor. This well is in the Plumer gas field, several miles southwest of the Caesar field. It is about 1800 feet due southeast of the discovery gas well and only producer in the field.

Keystone Royalties Company's C. B. Wood 2, on the Berclair prospect, Goliad County, was swabbing late in the week, after plugging back from 6702 feet and perforating casing between 5977-83 feet. From an elevation of 137 feet derrick floor, the well topped the Hockleyensis at 5509 feet and the sand at 5975 feet.

The swab returns were clear water and small heads of gas.

The test is located just southeast of Woods 1, Rios Survey, which blew out several months ago from this sand and was completed through stuck drill stem.

Although the immediate Pettus group of fields appear to be near the end of their development campaigns, work progresses unabated, four fields benefiting with additional production.

Magnolia Petroleum Company has completed its second producer in a new campaign in the North Pettus field, Karnes County. It is Guy Porter 11, flowing four barrels per hour through 5/16-inch choke from sand at 3658-68 feet. The well shows no tubing pressure and 320 pounds casing pressure.

Hill, West and Kleiner added a new producer to the West Tuleta field, Bee County, through the completion of G. A. Ray 2-A at 3953-57 feet. Simms Oil Company's G. A. Ray 5 is in sand at 3936-41 feet and completed, and the same company's G. A. Ray 6 is in sand at 3936-40 feet and completed. None of the wells have been gauged.

Sun Oil Company is drilling below surface casing in C. S. Page 4, in the Dirks field, Bee County, while the Texas Company has completed S. Young 3 for 19 barrels per hour through ¼-inch choke at 3838 feet, logging sands at 3787-99 feet and 3815-23 feet. It has pressures of 400 pounds and 750 pounds on tubing and casing, respectively. Same company is commencing another well. Devonian Oil Company is preparing to start Young 1.

Caesar field reported one completion and the entrance of a new operator into the field. Luling Oil & Gas Company's J. T. Hudman 1-B made 10 barrels per hour through ¼-inch choke from sand at 3072-82 feet, showing 175 pounds tubing pressure and 650 pounds casing pressure. Cassin et al's Grissom 1 has started moving in.

George M. Church's Webb Hearn 1,

2000 feet southeast of the discovery well of the Beeville field, is drilling around 2000 feet, headed for Conroe sand production. LaSalle Oil Company's G. A. Ray 1, several miles northeast of this well, has been spudded.

In Live Oak County, Slick-Urschel Corporation has started a well in the Fort Merrill field, the second test to be drilled in that field. It is Watson and Shipp 1, 1320 feet from the south line and 330 feet from the east line of the 154-acre tract in the P. Salinas survey, just southwest of the discovery well.

Trinity Drillers et al's P. E. McNeill 1, west outpost well of the McNeill field, Live Oak County, has been abandoned at 5474 feet after showing salt water in the Yegua sand at 5462-74 feet. It previously showed a slight bit of oil and oil cut mud in the Pettus sand at 5110 feet and gas in the Hockleyensis sand at 4390-4419 feet. Luray Oil Company's Little 1, in the northern portion of the field, topped Pettus sand showing gas at 4954 feet and at 4969-5016 feet, it showed 90 feet of oil cut mud. It is drilling ahead to the Yegua sand.

LARGE VALLEY LEASE

Pan-American buys 3650 acres in Mestenas area

Mission, Texas.—Pan-American Producing Company purchased 3657.04 acres of leases from McCullum Exploration Company and Burt McCollum in the Mestenas field district, eight miles northeast of Edinburg, for a consideration reported to be $109,-711.20 cash and $1,828,520 in deferred payments out of one-eighth of the production of either oil or gas.

The block surrounds completely the holdings of Gulf States Oil Company, discoverer of the field, and comes to within one mile of the discovery well and only producer. This field was discovered in August of this year through the completion of a gasser spraying oil from perforations at 6658-6748 feet in the Frio formation.

Gulf States Oil Company's Engelman 2, located 500 feet east of the discovery well, is drilling below 5050 feet and should be on the sand within the next several days of drilling. Same company's Delta Orchards 1, located one mile south of the discovery well, is moving in machinery for a test to be drilled immediately.

An extension of 4500 feet to the northeast is being provided to the Mercedes field, also a Frio sand producer in Hidalgo County. Union Sulphur Company's American Rio Grande Land and Irrigation Company 6, Tract 2358, Block 49, is at a total depth of 7596 feet with casing set at 7482 feet. It has sand at 7482-98 feet, showing oil. Same company's No. 5 well is trying to mill out around 7400 feet, depth being 7529 feet.

SOUTH TEXAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BEE COUNTY—		
Luling Oil & Gas Co., J. T. Hudman 1-B, Baker sur (Caesar)	240	3082
The Texas Co., S. E. Young 3, G. W. Young sur (Dirks)	456	3828
BEXAR COUNTY—		
F. T. Chew, Chas Jones 6, J. Pena sur (Adkins)	*	695
F. H. Eckert & Son, Louis Brehm 16, Buquar sur (Eckert)	8	681
CALDWELL COUNTY—		
Max W. Koenig, Inc., W. J. Tiller 8, J. Henry sur (Luling)	15	2104
DUVAL COUNTY—		
Blanco & Buchanan, J. F. Welder 3, sec 385 (Seven Sisters)	725	2488
The California Co., Gruy Est 1, 2597 ft wl, 330 ft nl sec 157 (2 mi e Kohler field) pb & perf 2541-71	¶25	3777
P. K. Kelly, Tinney Est 1, 1000 ft sl, 200 ft el 270-ac lease and sec 8 (Piedras Pintas)	*	804
Magnolia, L. B. Moody 3, sec 60 (Loma Novia)	100	2553
T. P. Morgan, J. F. Welder, 330 ft nl and wl se sec 591 (1 mi s Seven Sisters)	*	2851
Rosan Oil Co., M. C. Hubbard 1, sec 71 (Loma Novia)	1440	2789
Santa Clara Oil Co., J. F. Welder 6, sec 385 (Seven Sisters)	650	2493
Stanolind, Irax G. Yates 2 (Farmers Life Ins. Co.) sec 416 (Labbe)	¶25	2466
TG&M Dr. Co., Davidson 2, 1750 ft el 330 ft sl sec 90, 3½ mi s Seven Sisters	*	3015
Texas Co., C. W. Hahl 8, sec 78, blk 8, (Loma Novia)	650	2589
G. Ruiz 2-B, sec 41 (Loma Novia)	70	2578
M. Vela 10, sec 42 (Loma Novia)	480	2652
HIDALGO COUNTY—		
Harrison, Davis & Bishop, F. B. Guerra 6, tr 12, por 41 (Samfordyce)	600	2772
Ernest Powell, Mrs. L. George 2, tr 13, por 41 (Samfordyce)	250	2768
KARNES COUNTY—		
Magnolia, Guy Porter 11, B&B sur No. 23 (N. Pettus)	150	3668
LIVE OAK COUNTY—		
Benco Oil Co., E. Mahoney 1, Mark Killely sur	*	78
Trinity Drillers et al, P. E. McNeill 1, blk 10, Jane Curry sur (McNeill)	*	5474
McMULLEN COUNTY—		
Bussa Oil Co., J. H. Dickinson 1, 4230 ft nl, 330 ft el G. B. Dilworth sur, No. 24	*	670
NUECES COUNTY—		
Houston Oil Co., J. B. Hunter 2, sec 586 (Saxet)	650	4867
Magnolia, M. L. Sanders 2, sec 165 (Baldwin)	450	4064
Republic Natl. Gas Co., John Dunn sur, E. Villareal sur, owdd, former td 4070 ft (Saxet)	200	4870
Texon Royalty Co., T. H. Isensee 2, sec 316 (Saxet)	360	4867
REFUGIO COUNTY—		
Quintana Pet. Corp., Tom O'Connor 25-A, Swisher sur No. 3 (Tomoconnor)	1525	5901
SAN PATRICIO COUNTY—		
Heep Oil Corp., E. H. Welder 4-F, sec 46 (Plymouth)	350	5651
Sun Oil Co., J. M. Hunt 2, sec 34 (Plymouth)	250	5624
STARR COUNTY—		
John H. Clopton, Kelsey Bass 2, sec 10	†	400
Skelly Oil Corp., Seabury et al 9, tr 256, por 38 (Samfordyce)	500	2816
VICTORIA COUNTY—		
Costa Oil Co., E. B. Terrell 1, R. Manchola gr (Coleto Creek)	*	2911
WEBB COUNTY—		
Mills Bennett, A. Montemayor 2, tr 7-B, sec 114 (Lopez)	384	2205
Magnolia, Benavides 5-X, blk 119, Arispe gr (Cole)	*	3891
Brennan-Benavides 18, blk 328, Hale sub, Arispe gr (Cole)	350	2752
Brennan Benavides 20, blk 354, Arispe gr (Cole)	450	2786
Volpe Bros 1, 330 ft nl and wl sec 485	*	4881
Sierra Oil Royalty Co (Nixon & Talbot), A. S. Billings 1, sec 113 (Lopez)	168	2177
Superior Oil Co. of Cal., W. C. Billings 1, sec 109 (Lopez)	650	2261
The Texas Co., M. W. Brennan 7, blk 355, Arispe gr (Cole)	350	2796
ZAPATA COUNTY—		
Clover O&G Co. et al, A. P. Haynes 2, blk 7, Comitas & Villa gr (Comitas)	8	865
Joe Palmer, Emma Markrud 1, 150 ft nwl and nel blk 22, sec 616	*	1405
The Texas Co., Whitehead 79, C. Blanco gr (Escobas)	20	1209

*Failures; †Junked; ¶Million cu. ft. gas

SOUTH DARST CREEK

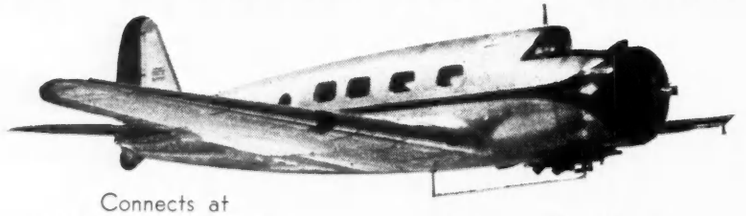
San Antonio.—Amy Oil Company's J. F. Larison 2, southernmost well to be drilled in the South Darst Creek field, Guadalupe County, is at 2363 feet with casing set. It is supposed to have encountered its showing in the Austin chalk at 2358 feet. This will be the fourth producer for this new field.

Doody Oil Company's Katie Lay and Kniffin and Gallagher's Stagal-Lay are drilling, and likely will be coring for the producing formation during the coming week.

TULETA HEARING

Austin, Texas.—A hearing to consider the establishment of rules regulating gas-oil ratios in the Tuleta field, Bee County, has been called by the Texas Railroad Commission. The hearing will be held in Austin on December 10. Operators in the field have filed with the commission protests that some wells are operating with excessive gas-oil ratios.

FLY BOWEN to and from **SOUTH TEXAS**



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DICKINSON IS EXTENDED; SOUTH HOUSTON OUTPOST GOOD

WEEKLY STAFF REPORT

Houston.—Humble Oil & Refining Company's San Leon 1 extended production in the Dickinson field, 2000 feet east when it came in for 769 barrels per day from 8060 feet.

Seven-inch casing was set at 8010 feet and 2½-inch tubing was hung at 7904 feet. The well came in flowing approximately 30 barrels per hour through a quarter-inch choke with a tubing pressure of 1500 pounds; casing pressure 1650 pounds. The gas/oil ratio is 778 to one.

On a drill stem test from 8012 to 8060 feet, the well showed a pressure of 175 pounds and started flowing, making 2256 feet of oil. The test was made through a quarter-inch choke on bottom and a three eighths-inch choke on top.

Humble Oil & Refining Company's Maco Stewart A-6 J. Sellers Survey, most southern drilling well, was waiting on cement to set at 8995 feet after setting seven-inch casing at 8974 feet.

Coast Petroleum Corporation's Maco Stewart 1, W. K. Wilson Survey, was waiting on cement to set at 8657 feet. Seven-inch casing was set at the bottom of the hole and will be perforated. The well is located on the southwest flank of the field.

South Houston Well Flows

Diadem Oil Company's Dean 1, M. Nichols Survey, west outpost test, South Houston field, Harris County, was reworked during the past week and came in for 28 barrels per hour from 4791 feet. The oil is flowing through a quarter-inch choke with 200 pounds tubing pressure. No gauge was taken on the casing. The well is showing wash water. Dean 1 is the best well completed to date in the South Houston field, Harris County.

Stanolind Oil & Gas Company abandoned Drilling District 17 (Fee 1) during the past week at 6050 feet. The well was the discovery well for the field but due to mechanical difficulty was carried deeper and made several tests from 4665 feet to the bottom of the hole. The well was completed originally in sands from 4665 feet to 4680 feet.

Stanolind Oil & Gas Company's Drilling District 21 made a drill stem test from 3971 to 3998 feet and showed 400 pounds pressure and 40 feet of oil and mud in the bottom. The test was made through a quarter-inch choke on top and bottom. It was made in seven minutes. Preparations are being made for a drill stem test from 3977 to 3989 feet.

H. C. Hill's Swilley 1, Victor Blanco Survey, Sheldon prospect, Harris County, was drilling ahead below 4461 feet after topping Discorbis at 4069 feet and Heterostegina at 4255 feet. The well, according to many, is running high for the district. The test will be drilled to 7500 feet. The same operator's Swilley 1-B, approximately two miles west is rigging up. Both wells will penetrate formations to 7500 feet.

Humble Oil & Refining Company's Miller 1, Amelia Prospect, A. Savery Survey, Jefferson County, was abandoned at 6470 feet in salt water sand. The well quit in the Frio formation. It topped Heterostegina at 5770 feet. Humble Oil & Refining Company made location for Mrs. E. Willerton 1. It is in the H. & T. B. Survey, Section 1, Abstract 138, being 1000 feet west of the east line of the Section and midway between the north and south line of a 25-acre tract or approximately 2460 feet north of the south line of the survey.

Anahuac Field

Humble Oil & Refining Company has completed Middleton 9, H. & T. C. Survey Section 58, Anahuac field, Chambers County, for 25 barrels per hour from 7085 feet. Top of the gas sand was found at 6964 feet and seven-inch casing was set at 7042 feet in oil sand. The well came in for the above initial production through a ¼-inch choke.

The same company's Hebert Broussard 2, eastern outpost test, H. & T. C. Survey, Section 59, was preparing to drill plugs late November 29. The bottom of the hole is at 7082 feet in oil sand. Top of the sand was found at 7002 feet. Seven-inch casing was set 7042 feet.

Humble Oil & Refining Company's White 4 is bottomed in oil sand at 7083 feet with the top of the oil sand at 7021 feet. Seven-inch casing has been set and the operators are waiting on cement.

Sun Oil Company has made location for White 5. It is in the J. McGehey Survey, 250 feet west of the east line and 467 feet north of the south line of lease and Survey.

Gulf Production Company has made its second location in the Anahuac field. Knowles 2 is 200 feet east of the west line and 431 feet north of the south line of the H. & T. C. Survey, section 48. At the end of the week the operators were moving in material. It is reported that this well is on the up throw side of the fault and should make a producer. Knowles 1 was drilled on the down side throw of the fault and resulted in a dry hole below 8000 feet.

North of the Anahuac field approximately two miles, Anderson & Johnson's White 1, J. McGehey Survey, is drilling below 7019 feet in shale after topping the Marginulina at 6855 feet. The well is reported to be off the structure and running about normal with other wells drilled in that area.

Turtle Bay Prospect

Stanolind Oil & Gas Company's A. Middleton 1, Turtle Bay Prospect, S. Burney Survey, Chambers County, was drilling below 5090 feet at the end of the week. No geological markers have been picked in which the well can be correlated with other tests that were drilled in the area. However, there is a rumor the well is running high. This could not be confirmed late November 29.

In the Cedar Bayou area on the Harris and Chambers county line, a semi-major oil company continues to lease acreage after working with torsion balance. It is also reported that a local geologist has completed a drilling block in the Cedar Bayou area. The acreage centers around the R. Barrow Survey, Chambers County, and south of Barbers Hill.

Cockburn Oil Corporation's H. H. Lankin 1, south of Sheppard, Wm. Hayes Survey, was abandoned at 5320 feet in salt water sand. Salt water sand

TEXAS GULF COAST

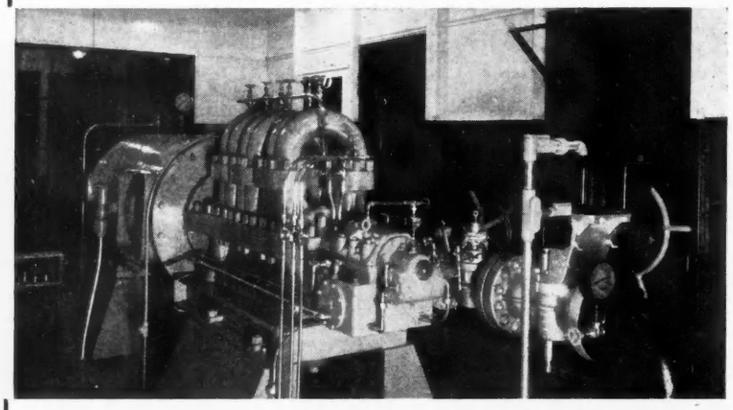
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
DICKINSON—		
Humble, San Leon 1	769	8060
HASTINGS—		
Stanolind, Pennock 2	432	6080
HIGH ISLAND—		
Stanolind, Cade 49	320	6119
LIVINGSTON—		
Owenby-Shell Pet. Corp., Pratt 5	380	4240
MYKAWA—		
West Prod. Co., Irwin 5	360	4336
PIERCE JUNCTION—		
Navarro Oil Co., Cain 3-B	*	5554
RACCOON BEND—		
Humble, Buchanan 1, (wo)	64	4177
McClasland 7	576	4120
Woodley 16	30	3458
SOUTH HOUSTON—		
Stanolind, Drilling District 17	*	6050
TOMBALL—		
Humble, Dooley 1	284	5562
Holderieth 2	48	5550
ANGELINA COUNTY—		
Neil Scroggins, Norton Properties 1, Wm. Johnson sur	*	612
Pioneer Expl. Co., Rose 1, S. Odell sur	*	1449
AUSTIN COUNTY—		
T. F. Wood et al, Thenchnman 1, se of Millhiem, J. Cummings sur	*	750
BRAZOS COUNTY—		
Delmar Oil Co., Wade 1, J. C. Stuteville sur	*	360
FT. BEND COUNTY—		
Bunte Oil & Gas Co., George 1, Smithers Lake, J. Jones sur	*	6010
JEFFERSON COUNTY—		
Humble, Miller 1, Amelia prospect, A. Savery sur.	*	6470
MADISON COUNTY—		
Poteete et al, Poteete 1, ne of Madisonville, L. Helsey sur	*	369
MONTGOMERY COUNTY—		
Travis Baker et al, Foster Estate 1, 6 mi e of Willis, De La Garza sur	*	lcn.
SAN JACINTO COUNTY—		
Cockburn Oil Corp., Lankin 1, s of Shappard, Wm. Hayes sur	*	5319
Darby-Jones-McBee Drlg. Co., Bennett 1, D. Beer sur	*	5484

*Failures; †Junked; ¶Million cu. ft. gas

ATTENTION!

Pipe Line Executives and Engineers



80% of the new Pipe Line Pumping Installations for the past 7 years have been Electric Motors!

WHY....?

BECAUSE cold statistical figures from actual operations over a period of years have warmed engineers and executives to the fact that semi-main line and gathering stations DO NOT operate at contemplated capacities.

BECAUSE electricity has been found to be the only power flexible enough to operate economically when pumping with a 25% or 50% load factor — which is the usual case!

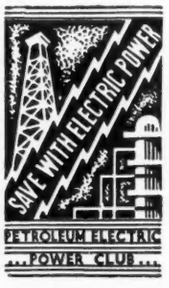
BECAUSE the original investment in the average electrical installation is 40% or less, than it would have been with any other prime mover!

BECAUSE the maintenance of any other prime mover is THREE or FOUR times greater than an electric motor!

BECAUSE records over a long period show there is less shutdown time with electric power. A saving in labor, time and money.

BECAUSE Purchased Electric Power is clean, presents less fire and explosion hazard, and allows the keeping of more accurate records!

If Purchased Electric Power is not already working for you, call in YOUR POWER COMPANY and have one of their engineers look over your pumping problems . . . . NOW!



PETROLEUM ELECTRIC POWER CLUB

was found from 5514 to 5537 feet in the Cockfield formation. The test is located 1000 feet west of the east line and 350 feet north of the south line of the lease in the Wm. Hayes Survey.

Darby, Jones and McBee Drilling Company's J. R. Bennett 1, David Beer Survey, San Jacinto County, was finished during the past week as a dry hole after drilling to 5454 feet and then plugging back to 1900 feet. Several drill stem tests were taken but none showed anything of importance.

In Ft. Bend County, C. B. Bunte Oil Company's A. P. George 1, Smithers Lake Prospect, J. Jones Survey, was plugged and abandoned at 6010 feet after testing salt water and failing to find any showings of oil or gas. The salt water sand was found from 5455 to 5459 feet.

New Gas Sand

Gulf Production Company's Moore 43, Orchard field, Ft. Bend County, which discovered a new gas sand sometime ago and blew out and caught fire, was recompleted for a gas well at 6670 feet. The cement was drilled to 6696 feet and the casing was perforated from 6675 to 6690 feet with 10 shots. The screen was run and the well came in from the Eponidez Yeguaensis making gas. It was shut in at the end of the week.

Gulf Production Company's Wilkes & Smith 1, J. W. Hall Survey, Brazoria County, was preparing to make a drill stem test at 6301 feet. At 6170 feet an odor of oil was encountered and a drill stem test failed. A sand was cored which contained an odor of oil from 6291 to 6296 feet. A drill stem test will be made of this sand. On an electrical logging device the well showed two ohms and 35 millivolts.

A new producer was added to the Hastings field during the past week when Stanolind Oil & Gas Company completed Pennock 2 for 432 barrels daily.

The well came in through a quarter-inch choke with a casing pressure of 875 pounds and tubing pressure of 825 pounds. Stanolind Oil & Gas Company has made location for F. N. Berger 1, 240 feet south and 330 feet east of the northwest corner of an 83-acre tract in the H. & T. B. Survey, No. 37. The well is a south offset to Hutcheson 2 and will be the most southwest well in the Hastings field.

Stanolind Oil & Gas Company's L. Shaw 3, is located 240 feet north and 330 feet west of the southeast corner of a 120-acre tract in the H. & T. B. Survey, No. 36.

John Deering has made location for a wildcat in the Cedar Lane area of Matagorda County. The well will be known as R. A. Estill 1. It is 2000 feet southeast of the west corner and 200 feet northeast of the highway on a 400-acre lease in the Toone & Jamison Survey. Between Cedar Lane and San Benardo there has been an active leasing play during the past six weeks with Sun Oil Company, Shell Petroleum Corporation and Stanolind Oil & Gas Company. The latter company has been working in the area with torsion balance.

In Wharton County, Sterling Oil & Refining Company's Janek 1, East Bernard Prospect, J. Scott Survey, was flowing 150 barrels of salt water daily through a quarter inch choke with 400 pounds pressure at 7867 feet.

Wildcat Produces

NEW FLANK PRODUCTION IS FOUND AT PORT BARRE

Lake Charles. — New flank production has been discovered on the west side of the Port Barre field, St. Landry Parish, by Pan American Production Company when Haas Hirsch 1 showed live oil on a drill stem test at 4883 feet.

The drill stem test was made in nine minutes through a quarter-inch choke on top and bottom. The well showed 2261 feet of live oil, 16 feet of sand and no salt water. The gravity of the oil tested 34.4 degrees. The well also showed good pressures. Casing will be run and a production test will be made the coming week. The well is located 2500 feet from production and is 1118 feet west and 450 feet south of the northeast corner of a 150-acre tract in Section 4-6s-5e.

Haas Hirsch 1 is the first well on the west flank to show oil in commercial quantities, thereby ranking as a discovery well of a new sand entirely separated from the main producing horizon of the Port Barre field. The well on an electrical logging test showed 190 ohms resistance. This is believed to be the highest number of ohms resistance shown at this depth.

Pan American Production Company has been in operation in the Texas and Louisiana Gulf Coast for only four months. It is the first well drilled by the company and also is on the first block of acreage taken by Pan American Production Company in the Louisiana Gulf Coast.

Hoard Exploration Company shot the block for three weeks with reflection seismograph about two months ago and made the location for the well. The shooting showed a favorable reation and after detailed reflection work location was made for the test.

'Tide Water Oil Company's Smede 1, the discovery well for the St. Martinville field, St. Martin Parish, is showing an increase in production with a smaller gas pressure. During the past week the well was making 416 barrels per day through a quarter-inch choke with a tubing pressure of 1650 pounds; casing pressure 2040 pounds. The first barge of oil was carried out through Bayou Teche last week. The operators have laid a four-inch pipe line 9000 feet east to the bayou.

The Coastal Plains Oil Company has made location for Breaux 1 in the new field. It is approximately 2000 feet northeast of the discovery well, being 336 feet from the west line and 201 feet from the north line of Section 57-11s-6e. The same company also has made location for Domendeaux 1, approximately 1000 feet east of the discovery well. It is 330 feet from the west line and 120 feet from the north line of the Domendeaux 50 arpent tract in Section 57-11s-6e.

The Texas Company's Dog Lake 18, Section 5-22s-16e, Dog Lake field, is waiting on cement to set at 7125 feet. Seven and five eighths-inch casing was set at 7100 feet. The well cored 24 feet of oil sand from 7101 to 7125 feet, discovering a new producing sand for the Dog Lake field. On an electrical logging device the well showed 15 ohms resistance and 43 millivolts porosity in the 24 feet of oil sand, which indicates the well may make a good producer. Production in the field heretofore has been found around 1600 feet and it has not been developed to a great extent.

Magnolia Petroleum Company's Willow Lake wildcat in Cameron Parish took a drill stem test from 9366 to 9378 feet during the past week and showed salt water. Broussard 1, Section 13-12s-9w, was plugging back to test sands around 9250 feet. The well showed 49 thribbles of salt water on the drill stem test. The bottom of the hole is 9501 feet and five-inch casing was set at 9499 feet.

In the Darrow field, Ascension Parish, Humble Oil & Refining Company completed another good well from the deep sand. Community 8, Section 31-10s-2e, was finaled at 5636 feet for 740 barrels daily through a quarter-inch choke with a tubing pressure of 865 pounds; casing pressure 875 pounds. Gravity of oil is 37.2 degrees. Humble Oil & Refining Company has made location for Community 9. It is 2445 feet northwest along the southwest line and 503 feet northeast at right angles from southeast corner of Section 30-10s-2e. Gumble 5, another location, is 965 feet northeast at right angles from southwest corner of Section 33-10s-2e.

In St. Tammany Parish on the Slidell prospect, Danciger Oil & Refining Company's Holdsworth 1, Section 26-9s-14w, is drilling ahead in sand at 4005 feet after showing dead oil from 3995 to 4003 feet in sand. The well also had a slight showing of oil from 2397 to 2402 feet. The showing was on an ether test.

Herbon Oil Company's Roane 1, four miles west of Charenton, Section 40-13-9e, St. Marys Parish, was drilling shale at the close of the week after coring sand from 6248 to 6250 feet. One foot of sand showing a good cut of oil was recovered on another test.

Continental Oil Company's Homeseekers 1, three quarters of a mile west of the discovery well in the Tepetate field, Section 29-7s-2w, Acadia Parish, was recompleted November 24, 1935, for 389 barrels of pipe line oil.

The well was plugged back to 8303 feet and cement was drilled to 8314 feet. The well came in for 389 barrels of pipe line oil through a quarter inch choke. Tubing pressure was 1920 pounds; casing pressure 1920 pounds. Gravity was 49.6 degrees. The well showed three percent basic sediment and water. The well also made 3,500,000 cubic feet of gas daily. The test topped the Discorbis at 6730 feet, Eponides 6925, Heterostegina 7090 and top of the sand was found at 8260 feet.

The well was completed originally at 8801 feet and made 363 barrels daily through a three-eighths-inch choke showing salt water. Tubing pressure was 2100 pounds; casing pressure 1500 pounds. Gravity was 34.6 degrees. The well was killed and a new setting was made. It then came in for 137 barrels through a quarter-inch choke. Tubing pressure was 1900 pounds. It was then killed and plugged back to the present depth.

The same company's Klump 1, southwest of the discovery well, Section 34-7s-2w, was also worked over and came in for 517 barrels per day from 8330 feet.

The field averaged over 1900 barrels daily during the past week from three wells. The discovery well averaged around 620 barrels, Homeseekers 1, 330 barrels and Welsh 1 around 970 barrels. The first tanker is due to arrive this week to carry away the first load of oil.

It was reported in error during the past week that F. F. Kramer's Robinson 1, Section 78-14s-14e, St. Bernard Parish, was abandoned at 160 feet. According to Kramer the well is temporarily shut down. It is understood a showing of gas was found around 100 feet.

SOUTH LOUISIANA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
BOSCO—		
Superior, W. V. Larcade 11	740	8696
DARROW DOME—		
Humble, Community 8	875	5636
GILLIS—		
Union Sulphur, State 12	288	7149
LOCKPORT—		
Magnolia, Farquhar 10	*	7000
HACKBERRY—		
Romac Oil Co., Vincient 2	*	5018

*Failures; †Junked; ¶Million cu. ft. gas.

Lake Charles. — There were three producers and two failures reported in the Louisiana Gulf Coast during the past week. The three producers yielded 1903 barrels per day.

Shreveport.—American Liberty Oil Company's Golson 1, NW NW 25-17n-1e, Ouachita Parish, tested salt water with a very slight show of oil and gas last week at 5381 feet in Glen Rose. Casing had been cemented at 5200 feet after reported oil and gas showings. The well will be plugged back and casing perforated for a test of a horizon at 5100-5115 feet.

EDWARD A. KOESTER, Kansas district geologist for Darby Petroleum Company, discussed, "Geology of the Central Kansas Uplift," before the Tulsa Geological Society on Monday evening, November 18.

Rodessa Extensions

20 PRODUCING WELLS DEFINE 3800 ACRES IN FIELD

WEEKLY STAFF REPORT

Shreveport, La.—The Rodessa field now extends approximately four miles in a northeast-southwest line, as a result of the extension of the field in three directions during the past week. The three extensions brought the number of wells completed in the field as oil producers to 20. The proven field is exactly one mile wide north and south at its point of greatest breadth.

The field's twentieth oil well was completed at 10 p.m. Thursday in Pelican Oil & Gasoline Comapny's Sexton Unit 2, SW SE NE 14-23n-16w, flowing 108 barrels per hour of oil free of water through half-inch tubing choke with casing and tubing pressure each 700 pounds. The well extends production one location east. Total depth is 6015 feet and saturation was topped at 5974 feet.

Production was extended one mile west by R. W. Norton's Foscue 1, SE NE 20-23n-16w, completed at 6004 feet; elevation is 220 feet. Anhydrite was topped at 5093 feet and 5¾-inch casing was cemented at 5956 feet. Production is coming from 17 feet of Dees sand and six feet of the Young horizon. From a geological standpoint it appeared that the interval between the Dees and Young horizons had thinned out considerably between Norton's Levee Board A-1, SE NE Section 21-23n-16w, putting the two horizons close together. Levee Board A-1 had only four feet of Dees sand, which was tight and void of saturation but it thickened out to the west and an excellent saturation with a porosity of 15 percent was found in the Foscue. The Dees sand is exceptionally fine grained. Foscue 1, however, throws scant light on the theory that the Dees sand thickens out to the west forming a reservoir as the two formations in the Foscue 1 were tested together.

Foscue 1 flowed 1116 barrels during the first 24 hours of production through small choke. It was gauged for the first hour making 86 barrels through half-inch casing choke with casing pressure of 800 pounds and tubing pressure of 700 pounds. It is the first well completed west of the discovery oil well, Young 1, SE SE 21-23n-16w, and brings production in half a mile of the Texas line.

The same operator's Tyson 1, NE NW 13-23n-16w, extended production one mile northeast. It was completed from 6032 feet, flowing 65 barrels of oil per hour through half-inch casing choke with casing pressure of 400 pounds. Later the well was placed on quarter-inch choke and flowed 35 barrels per hour, with the same pressure.

The apparent defining definitely of the producing possibilities of the Young horizon to the north occurred last week when Manahan Oil Company's Comegys 1, SE NE SE 10-23n-16w, tested salt water in that zone from 6015 to 6020 feet and will be plugged back to test the producing possibilities of the Dees sand. A core from 6015 to 6020 feet showed one foot of porous lime with a slight oil saturation. This core was taken 30 feet below the recognized salt water level in the Young zone in the field proper.

Having failed to get more than five or six barrels of oil per hour and ten million cubic feet of gas after being plugged back and casing perforated in the Gloyd sand at 5890 feet, Vaughn Production Company's Comegys 1, SE SE 10-23n-16w, one mile northwest of nearest Rodessa oil production was treated with 5000 gallons of acid in an attempt to make it produce from the Dees sand where it swabbed and headed considerable oil before being plugged back. Total depth is 6002 feet. This is the first use of acid at Rodessa.

The wells so far completed in Rodessa have proven approximately 3800 acres of productive oil territory.

Although it is being drilled as a "tight well," Haynes Oil Corporation and Allen & Noe's Embree Heirs 1, SW SW 9-20-28, Miller County, Arkansas, three miles north of Rodessa production, was reported last week to have had an oil showing in the Woodbine sand around 3400 feet. However, the well later was drilling ahead below 4100 feet. Another outside test, one to the west which is drilling "tight" is American Liberty Oil Company's Rogers 1, C. M. Robinson Survey, Cass County, Texas, drilling below 4773 feet and reported to be checking low with the Young 1 discovery well.

NORTH LOUISIANA Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
CADDO PARISH (Rodessa)—		
R. W. Norton, Foscue 1, 20-23n-16w	1116	6004
Tyson 1, 13-23n-16w	840	6013
BOSSIER PARISH (Bellevue)—		
Premier Invst. Co., Strange 1, 23-19n-11w	*	516
DE SOTO PARISH—		
Century Oil & Drlg. Co., D. Bailey 1, 25-11n-14w	*	3004
OUACHITA PARISH (Monroe)—		
Inabnet & Pipes, D'Arbonne 2, 28-19n-3e	¶3	2185
Interstate Nat. Gas Co., Fee 40, 30-19-4e	¶1	2172
Fee 42, 24-19n-3e	¶1	2175
SABINE PARISH (Converse)—		
Lee Whitehurst et al, Frost Lbr. Co. 5, 20-9n-13w	150	1640
SABINE PARISH (Zwolle)—		
Jack Lent, Williams 1, 13-7n-13w	*	2765

*Failures; †Junked; ¶Million cu. ft. gas

New Gas Field

North Louisiana added another potential gas field producing a heavily saturated gas from the oolitic lime horizon of the Glen Rose of the upper Trinity last week when Arkansas-Louisiana Gas Company's Fowler 1, NW SW SE 10-17n-1w, Lincoln Parish, between the Sabine and Monroe Uplifts, was completed at total depth of 5303 feet in lime and shale, gauging 71,385,000 cubic feet of wet gas with 2140 pounds rock pressure. Elevation is 261.9 feet. Seven-inch casing was cemented at 5280 feet. A saturated formation was logged from 5282-98 feet. Casing was set after electrical tester was run. Contacts were as follow: top Arkadelphia, 2183 feet; top Nacatosh, 2276 feet; first chalk at 2371 feet; hard chalk, 2392 feet; anhydrite at 4635 feet and base of the anhydrite, 5230 feet. The gas producing horizon is under the anhydrite but above what is known as the Hill sand, the upper gas producing horizon under the anhydrite in the Glen Rose at Rodessa.

The test is on a 6000-acre block centering on a reflection high which is said to cover Section 10 and extend into Section 11-17n-4w. This reflection is said to have shown 100 feet more closure than was found. The present test checked 51 feet higher on base of the Annona chalk than did Eastern Texas Production Company's Givens Estate 1, Section 2-17n-4w, which was drilled to 3505 feet.

The block was assembled by Herman L. Brown, David M. Lide, George Greer and Pat Marr. However, Arkansas-Louisiana Gas Company bought the gas rights on the block for $30,000 cash but the original owners will receive graduated royalties on gas produced.

Standard Oil Company of Louisiana paid $30,000 cash for oil rights on 1000 acres in the block.

This well is 10 miles southwest of the town of Ruston and four miles south of the village of Simsboro. It has heretofore been referred to as the "Montcalm structure" from a hamlet nearby.

Ohio Oil Company in cooperation with practically all the larger companies owning production and acreage in and around the Cotton Valley field, Webster Parish, last week made location and started moving in rig for proposed 10,000-foot test, plans for which were announced several months ago.

The new test is R. L. Holloway 6, located 760 feet west and 660 feet south center 23-21n-10w, Webster Parish, in the Cotton Valley field.

Among companies cooperating in drilling the test are Arkansas-Louisiana Gas Company, Magnolia Petroleum Company, United Gas Public Service Company, and Standard Oil Company of Louisiana. The money for the test was furnished by the companies in proportion to the amount of acreage held. Ohio Oil Company having approximately half of the acreage. The estimated cost of the test is $135,000.

The location is on top of what is believed to be a lower Cretaceous high in the Cotton Valley field. Cotton Valley for several years has produced a

heavily saturated gas from the oolitic lime of the Glen Rose at the 4500-foot horizon, one well completed by Ohio Oil Company having produced distillate.

One of the two tests drilled to 7000 feet in North Louisiana was drilled in this field by Magnolia Petroleum Company in McCook and Hibbler 1, Section 21-21n-10w.

Another wildcat test announced as a test for the oolitic lime horizon of the Glen Rose was in prospect last week when J. L. Ryan of Shreveport built derrick and started moving in rig for Jackson 1, SW SW 1-11n-14w, on a 3000-acre block centering six miles southwest of the town of Mansfield, in the Spider district. The well will spud immediately.

Two blocks of acreage were assembled in Richland Parish, northeast Louisiana. Centering in township 17 north, range 7 east near Girard, M. D. Chastain and C. R. Keilty of Fort Worth, Texas, have assembled a 10,000-acre block for a proposed oolitic lime test. In the same parish, centering in townships 18 and 19 north range 7 east, Morissey & Company of Fort Worth have a 13,000-acre block on which they plan a 3500-foot test.

About eight miles southwest of Amerada Petroleum Corporation's Weil 1, Section 51-1s-2e, Rapides Parish, but in Avoyelles Parish, P. N. Wiggins, Jr., of Dallas, Texas, has assembled a block centering in township 2 south, range 3 east, reportedly for a major company development.

Amerada Petroleum Corporation is reported planning five additional wells on the block on which it recently completed Weil 1.

The Texas Company is taking leases in Harrison County, Texas, bordering the Louisiana line. Geyer Oil Company of Dallas is leasing southwest of the Waskom gas field, Harrison County.

ENLARGING SYSTEM

Wichita Falls, Texas.—Magnolia Pipe Line Company is preparing to enlarge the capacity of its main line facilities in southern Wichita County and to recondition a section of its system in the upper portion of the county. Approximately 7½ miles of four-inch line, extending north from Wichita River, is to be replaced with six-inch pipe to relieve congestion on the system that serves Archer and Baylor Counties. The company's crude runs from the Portwood area, southeastern Baylor County, have been steadily increasing for several months.

Work is to proceed at once on the reconditioning of about 10 miles of six-inch trunk line extending west from Burkburnett. This unit handles crude from the South Vernon district and Electra field, and has been in service more than 15 years.

ARKANSAS

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MILLER COUNTY—		
C. V. Lenz, A. Dean 1, 24-15-26....	*	3009

*Failures; †Junked; ¶Million cu. ft. gas

PRODUCTION TEST

Showdown soon on La Fayette wildcat

ARKANSAS

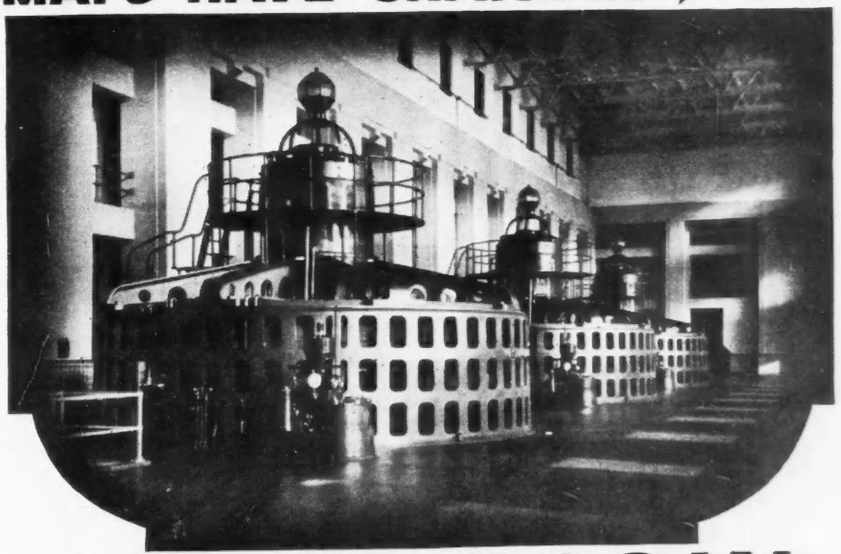
WEEKLY STAFF REPORT

El Dorado, Ark.—Producing possibilities of nine feet of Tokio sand logged from 3338 to 3347 feet and which showed saturation of oil, should be known soon in Transportation Petroleum Company's (Kamon & Neeley) Cochrane 1, NE SE 26-19-25, La Fayette County, Arkansas, five miles east of the old Bradley field that had several small commercial wells in the Buck Range sand of the Ozan.

After cementing 6⅝-inch casing at 3330 feet, this well was being tested last week. Elevation is 256 feet.

Although lacking an accurate official gauge, Crosbie & Robinson's Sullivan 1, SE SW NW 12-17-14, which picked up a new producing lens on the east flank of the Rainbow City field, Union County, was flowing an estimated 800 barrels of oil from 3162 feet. Production is coming from five feet of sand. Several offsets, including an east offset by the owners, will be drilled immediately.

MAPS HAVE CHANGED, TOO



EDGAR TOBIN AERIAL SURVEYS

SAN ANTONIO TEXAS

FOUR OF THE MAJOR PRODUCING COMPANIES USE OUR MAPS

STAKE OFFSET TESTS

Monument field is open in every direction

WEEKLY STAFF REPORT

Hobbs, N. M.—Six new tests for the Monument field were authorized the past week to serve as direct offsets to recent completions in the west and southwest portion of the structure, which is wide open for extensions in all directions. Amerada Petroleum Corporation contributed three of the new tests to boost its current operations to five on its discovery block, while The Texas Company has an equal number underway as result of starting work on two more tests on its State "E" 160-acre lease. Republic Production Company has rigged up to drill Selby-Maveety 2, C NE SW 35-19s-36e.

Amerada Petroleum Corporation ventures one location west of production in starting work on Wier 1, C SW SW 35-19s-36e. Its State 2-D, C SW NW 1-20s-36e, is a south offset to the discovery well, and contractor has set up rotary to drill State 1-J, C SW SE 2-20s-36e.

Five tests in the Monument area were preparing to drill cement plugs and core the lime pay zone after having landed casing near the 3800-foot level. All are direct or diagonal offsets to completed wells. No new extensions for the producing area will be realized until The Texas Company completes H. T. Mattern 1, C NW SW 20-19s-37e, which has cemented pipe at 1380 feet, and the next bid for new territory will be Repollo Oil Company's B. J. Barber 1, SWc SE NE 7-20s-37e, which has spudded. Both are west of the proven area.

Cooper Field

Sharp dip in the Cooper field's structure was experienced by Repollo Oil Company's C. W. Whitten 1, SEc SE SE 4-24s-36e, northwest outpost in developing a flowing producer, with water, from lime at 3670-3705 feet. The hole is bottomed at sub-sea depth of 300 feet, and top of brown lime was logged at 3208 feet, or 197 feet above sea level. It is 65 feet lower on this marker than Skelly Oil Company's Coates 3, east offset, which was completed at a sub-sea depth of 176 feet, or at 3578 feet. Whitten 1 gauged 476 barrels fluid, seven percent sulphur water, on 6¼-hour flow through three quarter-inch choke about half open. Appearance of water with the oil and low structural position will likely halt exploration work to the west.

Eunice Field

General Crude Oil Company and Magnolia Petroleum Company's State 1-E, C NW SW 32-21s-36e, situated in the sparsely explored area lying between the southeast extension and the main section of the Eunice field, failed to develop commercial production when lime at 3890 feet, or 269 feet sub-sea, was treated with 2000 gallons of acid. The hole will be deepened. This test was started last January, but work was halted after cementing surface pipe until the fore part of October.

North Jal

Heavy yield of sulphur water accompanied the increased volume of oil attained by Continental Oil Company and The California Company's M. F. Sholes 1-A-13, C SW SE 13-25s-36e, situated on east edge of the North Jal field, after deepening from 3310 feet to 3318 feet. Oil pay was logged at 3313-3316 feet. The well produced 480 barrels of oil along with 2400 barrels of water on 24-hour gauge, flowing through casing with gas lift equipment. Prior to deepening it swabbed 70 barrels of water per hour. Tubing packers will be utilized in trying to cut down the ratio of water.

Pump Hobbs Well

Pumping equipment may be installed on Tide Water Oil Company's State 1, which failed to extend the regular producing horizon for the Hobbs field to the northwest after using acid in lime at 4368 feet, but gives promise of being the first completion in the Bowers sand zone. The well swabbed 20 barrels of high gravity oil daily from the latter horizon after plugging back to 3860 feet followed by casing perforations between 2985 feet and 3559 feet.

Only a few gallons of oil along with drilling fluid appeared in Gypsy Oil Company's Steve Taylor 1, C SE NE 24-18s-38e, located 2¾ miles northeast of Hobbs, when the hole was unloaded at 4579 feet, or 966 feet sub-sea. It occupies a low structural position for the region, and created a surprise by registering oil saturation in lime section below 4525 feet. Casing was cemented at 4523 feet after six drill stem tests failed to show oil.

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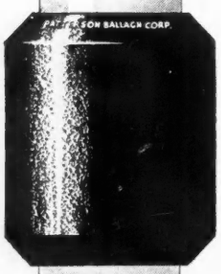

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Big Medicine Well

FLOW OF 135 BARRELS HOUR DRILL STEM TEST

WEEKLY STAFF REPORT

Casper, Wyo.—Ohio Oil Company and California Company were running drill stem test in the third Sundance sand at 5760-5792 feet in State Land 2, CNW NW 36-21n-79w, Big Medicine Bow Dome, Carbon County, central Wyoming. The well had 5000 feet of water in drill stem open 30 minutes at 5640-5747 feet, and showed for 135 barrels of 54 gravity crude per hour and 16,000,000 cubic feet of gas daily in the first Sundance at 5474-5505 feet. Hole bottoms at 5800 feet in the red beds. It is a mile south of the discovery which completed for 6380 barrels of 64 gravity crude and 81,000,000 cubic feet of gas daily. Same operators' Union Pacific 1, Account 1, NE SW NW 24-21n-79w, is drilling at 4000 feet.

After recementing back to 4032 feet J. M. Huber Corporation's Jose 1, NE SW NW 6-35n-65w, Lance Creek field, Niobrara County, swabbed and flowed 100 barrels of fluid in two 45-minute periods. Operators are rerunning tubing with packer to shut off water that may be coming from the light sand at 4000 to 4002 feet. If packer shutoff reveals water is from another source the well will be plugged back to 4024 feet and retested. The well showed good oil saturation in cores from 4004 to 4024 feet. It is a quarter-mile west of nearest Lance Creek production and is located on the steep dip side of the structure.

Ohio Oil Company's Elizabeth Lamb 7, Center East Line, NW NE 5-35n-65w, is drilling at 3639 feet near the first Sundance sand. The company's Converse Sheep 7, CNW SE 32-36n-65w, is spudding and Converse Sheep Company 4, CSE SW 32-36n-65w, is waiting on tools from Lamb 7.

Drilling 977 feet of Morrison shale, approximately three times the thickness expected as the normal section at Quealy Dome, California Company's Holst 2, SW NE SE 13-17n-77w, Albany County, is plugging back from 4027 feet. It is believed the well drilled into the steep side of the subsurface structure. The well will complete in the Dakota where highly saturated cores were recovered from 3164 to 3230 feet. The well entered the Morrison at approximately 3230 feet. The company's Wilson 1, NW SW SW 18-17n-76w, is shut down at 1010 feet for water.

Four oil wells were completed in the Osage shallow field of Weston County, eastern Wyoming. Federal Oil Company Fee 8, CNE SE 15-46n-64w, completed for 60 barrels daily on the pump at 2131-2141 feet. Des Moines-Osage Oil Company, Ost 11, CNL NE NE 25-36n-64w, completed for 25 barrels daily on the pump after a light shot in the Newcastle sand at 1418-1435 feet. Harkins et al Fee 1, SE SW NW 31-46n-63w, pumped 20 barrels initial. A light shot was placed in the sand from 2131-2143 feet. S. Gryttenholm's Apostol 1, NW SE SW 4-46n-63w, completed for a three-barrel pumper in the shale at 220 feet.

The Ohio Oil Company topped the first Sundance sand at 3233 feet and had good saturation in State 3, CEL SE NE 34-20n-78w, Rock River field, Carbon County. The well is deepening from the Dakota at 2875 feet where it had an initial production of 1037 barrels in the Dakota in 1920.

Western Wyoming

Senrab Oil Company's Government 3, N SE NW 10-26n-113w, in the La-Barge field, Lincoln County, is drilling at 1053 feet.

W. D. Marshall's Government 1, NW SW SE 12-15n-118w, in the Spring Valley field, Uinta County, is drilling at 810 feet. Intermountain Petroleum Company's Union Pacific 1, SW NW SW 24-14n-118w, Spring Valley, is drilling at 1571 feet. In the same field Ragan Petroleum Corporation's 4, NW SW NW 13-15n-118w, is drilling at 1040 feet.

Northern Wyoming

Ohio Oil Company completed its P. G. Sessions 3, NWc 35-56n-97w, for 315 barrels initial flowing from the Madison lime topped at 3925 feet. Hole bottoms at 4234 feet.

Peter Evanoff's McAllister 1, NW NE 3-55n-97w, Garland, is drilling at 2100 feet. Yale Oil Corporation's Allen 1, SE NW SE 33-56n-97w, is drilling at 3300 feet.

In the Byron field, Ohio Oil Company's Byron-Union 4, CSW NE 22-56n-97w, Big Horn County, is drilling at 3017 feet.

Ohio Oil Company's Mill Iron Cattle Company 72, NE SE SE 19-46n-98w, is a near completion in the Grass Creek field, Hot Springs County. It is running seven-inch casing to the top of the Embar lime at 3925 feet with hole bottomed in the formation at 3956 feet. The cores showed heavy saturation.

In the Hidden Dome field, Washakie County, Christinsen & Thorne's Government 2, NW SW SW 31-48n-90w, is drilling at 311 feet. Arlt & Doyle's Government 1, SW SW SE 29-48n-90w, is drilling at 1036 feet.

W. S. Gilbert's Government 1, SE SE 35-52n-93w, on Lamb anticline, Big Horn County, is drilling at 1041 feet.

MOUNTAIN STATES
Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MONTANA		
GLACIER COUNTY (Cut Bank Field)—		
Santa Rita O&G Co., Jacobson 1, cne sw 8-33n-5w	160	2884
TOOLE COUNTY (Kevin-Sunburst Field)—		
W. C. McKnight, Seabrook 2, sw nw sw 19-35n-2w	60	1551
Coolidge & Coolidge, O'Haire 4, ne ne se 35-36n-2w	40	1525
WYOMING		
CARBON COUNTY (Rock River Field)—		
Ohio, Diamond Cattle Co. 5, nwc sw nw 32-20n-88w	292	3210
CARBON COUNTY (Wertz Field)—		
Sinclair-Wyoming, Wertz 9, ne nw nw 7-26n-89w	¶	3670
NEW MEXICO		
LEA COUNTY (Cooper Field)—		
Humble, Mosley 3, c ne se 10-24s-36e	100	3600
Repollo, C. W. Whitten 1, sec 4-24s-36e	1500	3705
LEA COUNTY (Eunice Field)—		
Gypsy, State-Arnott-Ramsey 1-C, c sw sw 21-21s-36e	880	3900
LEA COUNTY (Monument Field)—		
Gypsy, B. V. Culp 2, c sw nw 19-19s-37e	500	4040

*Failures; †Junked; ¶Million cu. ft. gas

MONTANA BUSY
Completions and starts in several fields

Great Falls, Mont.—Drilling activity in the northern Montana oil fields showed for a busy week. There were six completions and two new locations staked in the Cut Bank field, Glacier County. McCabe & Jeffries' Government 2, Lot 3, 32-35n-5w, swabbed in for 275 barrels initial with total depth at 2884 feet. Well is located in the southern part of the field.

Just north of Cut Bank Consolidated Gas Company had a good completion in its Simero 1, CNE SE 1-33n-6w, which swabbed 189 barrels in the first 24 hours. Hole bottoms at 2935 feet.

Montana Power Gas Company's Connolly 1, NW NW 7-33n-5w, made 125 barrels initial with total depth at 2913 feet. The company is preparing to shoot the well.

P. M. K. Company's Haglund, Sr. 2, NW NE 14-34n-6w, made 90 barrels initial swabbing with total depth at 2882 feet.

R. C. Tarrant had a failure in his Thacker Bond and Mercantile 1, SW NW 27-32n-5w, which was dry at 2777 feet. Well is being abandoned after drilling throgh the Cut Bank formation.

The Texas Company's Emma C. Peterson 1, CW 23-36n-5w, is preparing to plug and abandon at 2973 feet.

New locations released were: McCabe and Jeffries' Rasmussen 1, SW SE 32-33n-5w, and the Montana Power Gas Company's Benish 1, CSW NW 9-33n-5w.

Three wells are near completions in the Cut Bank field. Fowler et al's Tweedy 1, SW SE SE 25-33n-6w, is

running eight-inch production casing to 2475 feet. Hole bottoms at 2789 feet, with 1000 feet of oil in hole.

Santa Rita Oil & Gas Company's Lander 1, CN SE 16-35n-6w, is running seven-inch production string to 2915 feet with total depth at 2922 feet where there was a show of oil.

K. D. Pardee and A. B. Cobb will apparently have a producer in Morrison 1, Lot 8. 24-33n-6w, which is drilling at 2901 feet with 700 feet of oil in hole. Well is an outpost location on the west side of the field.

Kevin-Sunburst

Despite the fact that there is no market for new wells at present in the Kevin-Sunburst field, Toole County, two wells were completed this week without the benefit of acid. R. C. White completed his Haugen 1, NE NE SE 11-35n-3w, for 100 barrels daily with hole bottomed at 1812 feet. Sand was topped at 1800 feet.

Nepstead - Montgomery - Fargher's Haugen 1, NE NW NE 11-35n-3w, completed for a 20-barrel well with total depth at 1853 feet.

W. C. McKnight's Seabrook, SW NW SW 19-35n-2w, which completed last week has settled to making 50 barrels daily. Hole bottoms at 1551 feet.

Pondera

Dave Mills' A. L. Erickson 1, SW SW SW 3-27n-4w, in the Pondera area, Pondera County, is fishing for tools at 1530 feet.

Baker-Glendive

Montana-Dakota Utilities' Unit 1, NE NW NW 17-4n-62n, deep test to unexplored sand, Cedar Creek (Baker-Glendive) gas field, Fallon County, is drilling at 5590 feet.

Hardin Gas Field

In the Hardin gas field, Big Horn County, southern Montana, Daniels Petroleum Company's May 1, CSE SE 13-1s-36e, is drilling at 2950 feet.

197 NEW STARTS

Austin, Texas.—Permits to drill 197 new wells in Texas were approved by the railroad commission last week, 33 more than were allowed the week before.

East Texas again took the lead with 80 new locations. There were 55 in Rusk County, 13 in Gregg County, eight in Upshur County, three in Smith County and one in Cherokee County.

Southwest Texas reported an increase with 42 permits, which included 19 in Duval County. The Gulf Coast area listed 32.

West Texas also showed an advance with 22 new permits, and there were four in the Panhandle.

East Central Texas listed six, there were the same number in West Central Texas, while North Texas reported only five.

L. C. COLLINS, Tulsa, president of Westland Oil Company, was a South Texas visitor recently.

Lawndale Interest

SAND AT ADVANCED DEPTH LACKS FLOWING PRESSURE

WEEKLY STAFF REPORT

Los Angeles.—Attention of Southern California operators is being centered on the outcome of Sovereign Oil Corporation's Ben Long 1, wildcat exploration test in Section 22-3s-14w, located 1½ miles east of the small Lawndale field, Los Angeles County. This well is now being cored ahead at 8120 feet in hard shale with streaks of oil sand. An aggregate of over 50 feet of oil sand has been penetrated since these streaks were first picked up at 7633 feet, most of which shows fair saturation but lacks the "kick" usually found in sands of this nature. One of the most notable features of this test is absence of the Nodular shale and schist markers, although the test is bottomed almost 1000 feet below the point where they would normally be expected.

Twentieth Century Oil Company is preparing to redrill the old E. J. Miley, Calnan 1, located about one-half mile northeast of the Huntington Beach old field, Orange County, in an effort to locate an extension of the lower sands of the field proper. This old test was drilled eight years ago to a depth of 5118 feet but was unable to obtain more than a few thin stringers of poor oil sand.

Commander Oil Company plans to drill another test of the Newport Mesa district, Orange County, in Section 29-6s-10w. This location is about 1000 feet north from where Nuoil Company drilled Banning 3 two years ago to a depth of 6452 feet, without uncovering an appreciable amount of oil showings. However, the new project will probably be a shallow test, since only a 64-foot rig has been erected and cable tools are to be used.

George L. Clayton is preparing to resume drilling operations in his No. 1 well, wildcat project located in Section 31-3s-12w, about four miles north of the Long Beach field, Los Angeles County. This well was spudded on November 12, 1933, carried down to 6750 feet in hard shale with no showings, and has been standing idle for several months with a drill pipe fish stuck on bottom. Lower portion of the hole is open from 1007 feet, where 10¾-inch surface casing is cemented.

Deep Belridge Well

Belridge Oil Company added another good producer in the North Belridge field, Kern County, last week when its No. 33, in Section 35-27s-20e, was completed for an initial production of 725 barrels per day of 47.5 gravity, clean oil; together with 24,000,000 cubic feet of gas. Total depth is 8320 feet, water being shut-off with nine-inch casing cemented at 7800 feet. Owing to the high gas-oil ratio of this well, it will probably not be allowed to flow. One of the most interesting features of the producers in this upper sand of the deep zone is the excessive pressures; the above production being made through one 38/64-inch bean with 2080 pounds tubing pressure and 2980 pounds casing pressure.

Belridge Oil Company is preparing to drill two additional wells to this 8500-foot sand. Foundations are being poured for its No. 18, which will be drilled near the northeast corner of Section 35-27s-20e, and rig site is being graded for its No. 6, which will be drilled in the northwest quarter of Section 1-28-20e. The latter test will be the most southerly well yet drilled in this field with its objective the Bloemer zone.

Three more wells were completed in the Edison field, Kern County, last week, and four new tests started.

A. T. Jergins Trust, Fee 5, Section 13-30-29, was completed for an initial production of 700 barrels per day of 24.0 gravity oil, cutting 0.5 percent. Depth is 1550 feet, with 11¾-inch casing cemented at 1175 feet. This is one of the best wells completed in this shallow field for some time, the average completion running from 75 to 300 barrels per day and usually carrying a much higher water cut.

One of the most important developments in the Kern County fields last week was the failure of S. and G. Oil Company's Gladys Nickel 1 to obtain commercial production. This project, located a little over one-half mile east of the Fruit-

CALIFORNIA

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
LONG BEACH—		
Boswell Pet. Corp., No. 2	120	4615
DOMINGUEZ—		
Union, Callender No. 41	320	4375
WEST COYOTE—		
Standard, N-C 124	350	5870
NO. BELRIDGE—		
Belridge Oil Co., No. 33	725	8325
EDISON—		
General, Speed 10-1	65	1895
Jergins Trust, A. T., Fee 13-5	250	1550
A.T., Fee 8	700	1291
KERN FRONT—		
C.C.M. Oil Co., No. 52	155	2057
National Oil Co., Standard 2	200	1703
KERN RIVER—		
American Naphtha Corp., No. 64	350	1412
MOUNTAIN VIEW—		
Canal Oil Co., No. 1	2500	5882
POSO CREEK—		
Baker-Grover, Baker 2	125	1890
KERN COUNTY—		
Ohio, K.C.L. A-3	*	5601

*Failures; †Junked; ‡Million cu. ft. gas.

vale field, attempted to obtain production from an easterly extension of producing horizons in the field proper. The well was deepened to 3474 feet, following an unsuccessful test of the upper zone, and seven-inch casing cemented at 3280 feet. A total of 265 feet of five-inch liner, including 105 feet of perforations, were landed on bottom and cemented through perforations at 3374 feet. However, the well showed only a large amount of salt water, although swabbed for several days.

Another test is scheduled to be made shortly of the Pyramid Hills district, Kings County, located about 10 miles south of the easterly end of Kettleman Hills North Dome.

The new project, Royalty Service Corporation's Spreckles 1, will be located near the southwest corner of Section 16-24s-18e, on a 550-acre lease recently acquired by these operators.

This location is about one-fourth of a mile to the northeast from where Pyramid Hills Syndicate drilled a well several years ago to a depth of 2465 feet without uncovering anything worth testing.

Work of outlining the structure of Semitropic gas field, Kern County, has been completed and no further exploration work is contemplated for this area.

Standard Oil Company abandoned two additional wells in the field last week and is expected to abandon the only remaining drilling well very shortly. Standard's K.C.L. 8-1, Section 20-27s-24e, was drilled to 5035 feet without finding gas in commercial quantities, and its Redding 1, Section 36-27s-23e, is being abandoned at a depth of 3445 feet. The remaining drilling well, Standard's K.C.L. 7-1, Section 30-27s-24e, is now drilling ahead just below 5000 feet and is already below the point where other wells encountered the deeper gas zone.

An additional blow was dealt prospective Kern County gas fields when Ohio Oil Company abandoned its third test of the easterly edge of the old Buena Vista Lake. This test, K.C.L. A-3, Section 31-31s-26e, was carried to 5419 feet originally, following which the lower portion of the hole was redrilled and deepened to 5601 feet. Several formation tester runs were made of the formations near bottom but results obtained were negligible.

R. H. McIntosh has gone back into the old Lompoc Petroleum Company's Beauterbough 2, wildcat project located about five miles southwest of the shallow Lompoc field, Santa Barbara County, in Section 18-7n-34w, and is now deepening at 3810 feet in hard shale. This well has been working intermittently for the past three years. On a test from 3515 feet the well made 3000 barrels per day rate of hot salt water, with an estimated 200,000 cubic feet of gas, but no oil.

Ventura Exploration Company's Sexton 1, easterly extension test of the Ventura Avenue field, Ventura County, located about one-half mile from the nearest production, in Section 30-3n-22w, tested wet last week on water shut-off test of 8⅝-inch casing cemented on bottom at 7068 feet. Additional cement has been squeezed around the casing shoe and is now standing to harden. As soon as shut-off is obtained, operators plan to perforate the casing and test back by stages.

GASOLINE SALES UP

Sacramento, Calif.—Smashing all previous monthly records, California's distribution of gasoline reached a total of 149,404,774 gallons in October, which compares with a tax paid distribution of 115,220,440 gallons in October, 1934, and 107,138,341 gallons for same month in 1933. In October, 1931, taxes were paid on 113,630,906 gallons in the state. The previous high month in the state was in July, this year, when the total was 146,514,211 gallons. The state tax is three cents a gallon.

According to R. E. Collins, chairman of the California State Equalization Board, the state collected $4,437,321.92 in October, an increase of 29.73 percent over the amount collected in the same month in 1934.

MISSISSIPPI

Jackson, Miss.—The daily average amount of gas "pulled' from the Jackson field during October was 27 million cubic feet, the total amount of withdrawal from the field over a 30-day period being 814,825,000 cubic feet. There are over 100 gas wells in the field. Several wells have recently been tubed.

Considerable activity is in prospect in Wilkinson County, southwest Mississippi. Gulf Refining Company recently took a 20,000-acre block in that county, and Charles Green, Trustee, of Laurel, is planning a test on his block centering in Section 8-3n-1e, in that county. Danciger Oil & Refining Company is taking acreage in that area and blocks are already held by Kirby Petroleum Company and Arkansas-Louisina Gas Company.

Considerable blocking and leasing is reported going on in West Feliciana Parish, Louisiana.

J. D. CLAIR SMITH, independent producer of Laredo, has moved to San Antonio and has established residence at 1004 West Mulberry Avenue.

MICHIGAN

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
MIDLAND COUNTY—		
Pure Oil Co., Alexander 7, 13n-1w, se ne ne-19	35	3419
K. K. Leibrand, State 1, 15n-2e, c ne ne-32	15	2496
ALLEGAN COUNTY—		
Gerit Vander Lest, Berrens 1, 4n-14w sw se ne-26	*	1600
IONIA COUNTY—		
Greer & Meal, Welch 1, 8n-6w, sw ne-33	*	2987
A. F. Holliday, Abbey 1, 13n-7w, nw ne nw-36	*	3000
MECOSTA COUNTY—		
Columbia Oil Co., Calkins 1, 13n-8w, c sw ne-23	¶10	1345
MONTCALM COUNTY—		
Ide Oil Co., Wood 1, 12n-7w, c se ne-10	¶18	1300
D. F. Jones, Bolger 1, 12n-7w, c sw se-10	¶18	1302
E. H. Linabury, Forest 1, 10n-5w, se se se-8	*	3280
Swanson Oil Co., Davenport 1, 11n-5w, ne ne ne-28	*	3298
Gordon Oil Co., Williams 1, 11n-5w, sw nw se-36	¶2½	1050

*Failures; †Junked; ¶Million cu. ft. gas

EASTERN STATES

Completions

Company, Well and Location	Init. Prod. Bbls.	Depth
INDIANA		
DAVIESS COUNTY—		
Midwest Dev. Corp., Dilley 9	¶	432
GIBSON COUNTY—		
Big Four O&G Co., Huey 3	*	1412
Managers Disc. Corp., Holcomb 1	*	....
KENTUCKY		
McLEAN COUNTY—		
J. C. Miller, Tr., Folly Tract 1	*	....
OHIO COUNTY—		
Sunflower Oil Co., Jones 8	85	....
Teller & Co., Whitehouse 5	25	....
OHIO		
ASHLAND COUNTY—		
Faulkner & Phelps, Hurman 7	25	....
ATHENS COUNTY—		
Leeper & Co., Bryson 10	¶	898
O. F. Lowther Co., Cody 2	¶	1720
Cross Fredbault & Co., Lewis 1	9	1239
Castlerun Oil & Gas Co., West 1	*	....
COSHOCTON COUNTY—		
Ohio Gas L&H Co., Holderbaum 2	¶	869
FAIRFIELD COUNTY—		
Bishop & Patton, Shaffer 1	2	2055
City Natl. Gas Works, Mossbarger	¶	2558
GUERNSEY COUNTY—		
Larick & Quillen, Quillen 7	¶	1204
JACKSON COUNTY—		
Ohio FG Co., Cavey 1	¶	2770
KNOX COUNTY—		
Upham Gas Co., Smith	¶	2865
LICKING COUNTY—		
Blue Rock Oil Co., Baughman hrs 1	*	3091
MEDINA COUNTY—		
Edwin Obermiller, Steingass 2	¶	....
Ohio Fuel Gas Co., Grim 1	¶	....
MEIGS COUNTY—		
Stewart & Ross, Williams 4	¶	881
J. I. Clark & Co., Hodushelt 10	*	867
Hovis O&G Co., Ross 1	¶	2068
Roy Holmes & Co., Bradford 2	¶	1963
NOBLE COUNTY—		
A. L. Smithberger, Noll 5	*	905
Waid Keifer & Co., Turner hrs 3	5	750
PERRY COUNTY—		
Kachelmacher Co., Hemlock 11	*	....
PERRY COUNTY—		
Ohio FG Co., Fisher 1	*	2789
PIKE COUNTY—		
Shy Pipe Prod. Co., Shy 1	¶	409
SCIOTO COUNTY—		
Wood & Co., Heller 1	¶	800
TUSCARAWAS COUNTY—		
Capital Drlg. Co., Asher 6	¶	3735
VINTON COUNTY—		
Wittmer O&G Co., Will 1	*	3024
WASHINGTON COUNTY—		
Local Oil Co., Dowe 10	3	1602
McVey Bros., Williamson 9	*	1729
Wicks Oil Co., Slack 1	¶	1680
Harry Binegar, Moore 6	¶	1967
West Harris, Knox 5	¶	1197
Anderson & Co., Vickers 3	*	1325
D. T. Orndorf, Roe 6	¶	1533
McTaggart & Co., Roberts 4	¶	1855
WYANDOT COUNTY—		
M. H. Kear, Huston 1	¶	....
PENNSYLVANIA		
ALLEGHENY COUNTY—		
R. W. Dixon & Co., Breslin 1	*	....
BEAVER COUNTY—		
John Galey & Co., Graham 1	¶	4545
WASHINGTON COUNTY—		
E. H. & J. B. Teague, McClain 1	5	1048
Foreman Nuss & Co., Buchannan 2	¶	1410
H. D. Freeland & Co., McCarty 1	*	3110
WEST VIRGINIA		
GILMER COUNTY—		
Grant Fowler & Co., Gaston hrs 1	¶	....
HANCOCK COUNTY—		
Wm. Tope & Co., Chambers 1	*	....
KANAWA COUNTY—		
Cambridge Gas Co., Compton 4	*	....
G. L. Cabot, Inc., Huntington 49	*	....
PUTNAM COUNTY—		
United FG Co., Clark 4558	¶	....
RITCHIE COUNTY—		
L. P. Bickel, Morris 4	*	....
ROANE COUNTY—		
United FG Co., Farrel 4569	¶	....
WETZEL COUNTY—		
C. B. Lewis & Co., Morgan 1	¶	....

*Failures; †Junked; ¶Million cu. ft. gas.

THE OIL WEEKLY REPORT ON IMPORTANT

Wildcat Tests

ALABAMA

BALDWIN COUNTY—Danciger O&R Co.'s U. S. Govt 2, (Fort Morgan reservation), 12½-in csg 223 ft sd 1700 ft.

LAMAR COUNTY — DeSoto O&G Co.'s Gardner 1, nw nw 22-15-16, sd 4900 ft lime.

MOBILE COUNTY—J. C. Prine's King 1, n½ ne 4-1n-4w, pb & cemtd 6-in csg 1600 ft old td 3180 ft.

ARKANSAS

ASHLEY COUNTY—Benedum & Trees Oil Co.'s Holmes 1, ne sw 4-17s-5w, elev 183 ft top Cretaceous 2919 ft, sd tr old td 4234 ft. Trinity red beds.

COLUMBIA COUNTY—Green Smitherman et al's Magale & Elam 1, 13-17n-22w, mir. Southern States Gas Co.'s Pinewoods Lbr. Co. 1, ne nw 10-20-22, elev 231 ft top Nacatosh 1840 ft arr deepen 1924 ft.

CLARK COUNTY—B. Tribonoff, Tr's Gibbons 1, sw ne ne 27-8-18, spd surf csg 75 ft dr 275 ft.

GARLAND COUNTY—J. E. Elliott, Tr's J. D. Hauyst 1, ne se nw 22-2-17, rur.

HEMPSTEAD COUNTY — Geo. L. Glass' May B. O'Brien 1, ne sw 32-12s-32w, rur. F. W. Martin's Lafferty 2, se nw 17-14-27, rur.

LA FAYETTE COUNTY — Earl F. Fox's Coleman 2, ne ne 30-16-24, 10-in csg 135 ft. Leach et al's Bodcaw Lbr. Co. 1, 20-16-23, rur. Joe Modisett et al's Frost Lbr Co. 1, sw sw 29-19-24, elev 261 ft top Arkadelphia 1653 ft 9⅝-in csg 2140 ft top stringer anhydrite 4924 ft massive anhydrite 5106-5309 ft fsg 5316 ft. S. H. Riggs et al's DuBose 1, sw nw 35-15-24, elev 315 ft, 6-in cas 2800 ft, td 2822 ft. Transportation Pet. Co.'s Cochrane 1, ne se 26-19-25, elev 256 ft. Annona chalk 2337-2690 ft cemtd 6⅝-in csg 3330 ft claim 9 ft sand so, dr plug & arr test, td 3347 ft.

MILLER COUNTY—E. B. Bird, Tr's Commercial Bank 1, 30-19-27, dk. King Oil Corp.'s G. W. Crank 1, sw ne 19-16-25, top Nacatosh 1950 ft, Annona chalk 2365-2735 ft, fsg 3225 ft. C. V. Lenz's A. Dean 1, nw se 24-15-26, sw abn 3009 ft. L. H. Mahan et al's Miller L&T Co. 1, sw se 29-18-27, 10-in csg 150 ft.

MONROE COUNTY — Beaver Pet. Co.'s Stinson 1, se sw 27-4-2, sd 2240 ft. Monroe Oil Corp.'s Harvey 1, se se 19-1-1, dr 3368 ft.

OUACHITA COUNTY—Benedum & Trees Oil Co.'s Brigham 1, ne sw 29-14-19, elev 340 ft top red beds 2484 ft, dr 5202 ft lower Travis peak. Show Black Pet. Co.'s Jerry Bedford 2, sw sw 32-11-18, spd new hole. W. B. Street's Rath & Cartier 1, sw sw ne 35-13-18, no report. Griggsby & Aarnes' Burris 1, sw nw ne 19-15-19, rur.

UNION COUNTY—Ark.-Southern Oil Co.'s Laney 1, 32-19-16, 10-in csg 176 ft. Simmons 1, nw ne 15-18-13, dk. I. J. Allen's Union Sawmill Co. 1, sw se nw 8-17-12, surf csg 120 ft dr 1400 ft. Buckbee et al's Sloan 1, sw se nw 14-17-15, elev 173 ft, pb to 2160 ft, cemtd 7-in csg 2147 ft, testing old td 3250 ft.

CALIFORNIA

KERN COUNTY

BELRIDGE—Albert Beck's Beck-Bacon 1-35, 35-28-20, dr 524 ft.

BUENA VISTA LAKE—Ohio's K.C.L. A-3, 31-31-26, abn 5601 ft. Shell Oil Co.'s B.V.A. 1, 9-32-25, td 9453 ft, plug 3600 ft, to test upper zones.

CALIENTE—Caliente Oil Co.'s No. 2, 31-29-30, dr gray sand 450 ft. O&H Oil Co.'s O&H 1-A, 32-30-30, sd 686 ft.

COMANCHE POINT — Comanche Oil Co.'s No. 1, 15-32-29, dr gray sand 5390 ft.

DEVIL'S DEN—Cumberland Oil Co.'s Cumberland 1, 17-26-18, deepening from 3665 ft.

EDISON—Bauer Oil Co.'s Bauer 1, 21-30-29, td 4554 ft, plug 2972 ft, swabbing. Navy Oil Co.'s Caravel 1, 19-30-30, td 1450 ft, preparing to test.

GRAPEVINE—Silver Gate Co.'s Tejon 1, 7-10-19, td 2095 ft, ratholed through cement plug and found it soft, undecided on next move.

KERNELL—Standard Oil Co.'s Widgeon, 3, 1-25-23, rig.

LOST HILLS—Standard Oil Co.'s United 1, 2-26-20, td 5816 ft, set 9⅞ in. at 5766 ft, dr out to test.

NO. MOUNT POSO—Santa Carla Oil Co.'s Glide 1, 7-26-28, lcn.

SAN EMIDIO—Ohio Oil Co.'s K.C.L.C-11-49, 11-11-22, dr sand and shale 6827 ft.

SO. ROUND MOUNTAIN—Standard Oil Co.'s M&T 1, 3-29-29, dr hard sand streaks shale 3575 ft.

WHEELER RIDGE — Reserve Oil & Gas Co.'s No. 4, 2-10-19 spud Nov 13.

MISCELLANEOUS

HUMBOLDT COUNTY — The Texas Co.'s Eureka 1, 1-3-2, td 6123 ft, plug 5850 ft. sd.

KINGS COUNTY—Royalty Service Corp.'s No. 1, 16-24-18, rig. Milham Explor. Co.'s W.T.L. Co. 1, 5-22-19, dr shale and conglomerate 3850 ft.

MADERA COUNTY—Pure Oil Co.'s Chowchilla 2, 8-10-14, dr blue shale 4320 ft; Security 3, 6-10-14, spud Nov. 18.

SAN JOAQUIN COUNTY — Amerada Pet Corp.'s F.D.L. 1, 15-2-5, dr sand and shale 9396 ft; Tracy 11-23, 23-2-5, dr shale 4107 ft.

TEHAMA COUNTY — Northern Counties Pet. Co.'s Ewers-Mooney 1, 25-24-3, td 5032 ft, wocs 9-in at 4904 ft.

TULARE COUNTY—Geo. Clarke's May 1, 31-23-28, sd 1316 ft.

MONTEREY COUNTY — Shell Oil Co.'s Branch 1, 34-24-10, dr black and brown shale 6396 ft.

SAN LUIS OBISPO COUNTY—Birch-Royer Oil Co.'s Patchett 1, 33-31-13, dr sand 765 ft, carrying 16-in.

SANTA BARBARA COUNTY

CARPINTERIA—Santa Barbara Oil & Gas Co.'s Bryce 1, 29-4-25, td 310 ft, rur.

GOLETA—Shell Oil Co.'s Hollister 2, 10-4-29, sd 3819 ft.

LOMPOC—M. J. Freeman's La Brea 1, 11-7-33, sd 1450 ft, may deepen. Lompoc Pet. Co.'s Beauterbough 2, 18-7-34, deepening in shale 3810 ft.

SANTA MARIA—O. C. Fields Gaso. Corp.'s No. 1, 28-10-33, sd 2915 ft.

SUMMERLAND—Marmonte Oil Co.'s No. 1, 16-4-26, td 1220 ft, landed 200 ft of 6⅝-in all perforated, bailing.

VENTURA COUNTY

BARDSDALE — Duke Oil Corp.'s No. 1, 7-3-19, foundations. El Rancho Oil Co.'s Elkins 1, 9-3-19, td 1083 ft, wocs 12½-in at 950 ft. Union Oil Co.'s Dryden 10, 12-3-20, dr os and shale 5295 ft.

FILLMORE—The Texas Co.'s Unit Plan 2-1, 29-4-19, dr sand and shale 5982 ft.

OJAI—Continental Oil Co.'s Pirie 2, 12-4-23, rur.

OXNARD—General Pet. Corp.'s McGrath 1, 26-2-23, td 7625 ft. Redr 5706 ft.

PADRE CANYON — Continental Oil Co.'s Hobson 1, 15-3-24, dr 1784 ft.

PIRU—Bolsa Chica Oil Corp.'s Snow 1-A, 4-4-18, dr os and streaks shale 2888 ft.

SHIELLS CANYON — Bankline Oil Co.'s Calumet B-2, 3-3-19, foundations.

SIMI—Jas. S. Hull's No. 1, 2-2-18, dr shale 1360 ft. Paloma Oil Co.'s Paloma-Marr 1, 12-2-18, dr shale 2764 ft.

VENTURA—Ventura Explor. Co.'s Sexton 1, 30-3-22, td 7068 ft, set 8⅝-in at 7068 ft and was wet, recemtd.

SOUTHERN CALIFORNIA

BREA CANYON—Pressel-Perry-Tully's Baird 1, 30-2-9, sd 4535 ft, will drop from report.

CARBON CANYON—Tehama Pet. Corp.'s Kramer 1, 33-2-8, td 3053 ft. Plug 2675 ft, perforated 7-in at 2475 to 2675 ft, wet.

EAST MONTEBELLO—Wilshire Annex Oil Co.'s Baldwin C-1, 11-2-11, dr hard shale 4081 ft.

EL SEGUNDO—Larco Oil Co.'s Van 1, 12-3-15, sd 7600 ft, dr pipe laid down.

HUNTINGTON BEACH—20th Century Oil Co.'s No. 1, 36-5-11, rig over old E. J. Miley's Calnan 1, td 5118 ft.

KRAEMER—T. W. Cooke Drilling & Service Co.'s Cooke 1, 25-3-9, dr sandy shale 1797 ft. Leaseholders Dev. Co.'s Vejar 1, 26-3-9, td 4056 ft, rig down, will drop from report. Standard Oil Co.'s Yorba Com. 1, 36-3-9, td 2714 ft, plug 331 ft, redr 557 ft.

LAWNDALE — Sovereign Oil Corp.'s Ben Long 1, 22-3-14, td 8032 ft, cored 47 ft, os below 7633 ft.

NEWHALL—Yant Pet. Corp.'s No. 5, dr sandy shale 685 ft.

NEWPORT—Commander Oil Co.'s Mesa 1, 29-6-10, wooden rig up to use cable tools.

NO. LONG BEACH—Geo. L. Clayton's No. 1, 31-3-12, td 6750 ft to resume dr.

PICO—Frontier Oil Co.'s No. 1, 12-2-12, sd 5246 ft.

PICO CANYON—N. M. Fraser's No. 1, 31-4-16, fsh 825 ft.

PUENTE—No. American Oil Consolidated's Smith 3-1, 30-1-10, dr hard sandy shale and conglomerate 4940 ft.

REDONDO BEACH—Thos. R. Clark's No. 1, 6-4-14, td 2510 ft, trying to recover stand dr pipe.

SAUGUS — International Oil Developer's Powell 2, 34-5-16, dr shale and streaks sand sg 1870 ft.

TORRANCE—Eyer Pet. Corp.'s No. 1, 20-4-13, sd 731 ft. Oliver McDonald's No. 1, 35-3-14, rur. Pioneer Holding Co.'s Pioneer 1, 33-3-14, td 4283 ft, plug 4100 ft, co wet, some oil, to core ahead.

WEST LONG BEACH — Shell Oil Co.'s Amebco 1, 13-4-13, dr sandy shale and gray sand 3720 ft.

WILMINGTON—Ed McAdams Palos Verde 1, 31-4-13, foundations.

SAN BERNARDINO COUNTY — Equitable Pet. Explor. Co.'s No. 1, 11-10-5, td 1999 ft, to set 8⅝-in. Hillman Long's Pelissier 1, 2-3-8, sd 2418 ft, to drop from report.

RIVERSIDE COUNTY — Albert Petroleum Co.'s Watt 2, 23-7s-3w, td 2695 ft, wocs 6⅝-in at 1798 ft, ran electric coring device.

COLORADO

BOULDER COUNTY—Leslie R. Steel et al Maxwell 1, sw ne nw 24-1n-71w, dr 2380 ft.

ELBERT COUNTY—Ramsey Petroleum Co. Union Pacific 1, center 13-8s-57w, spd 20 in surface pipe set at 186 ft.

ROUTT COUNTY—Mid-Colorado Petroleum Co. Ohmholt 1, nw ne 29-4n-87w, ur 8¼ in csg to set through Lakota sand, td 2820 ft.

MORGAN COUNTY—Swisher et al Lunt 1, sw sw sw 3-5n-60w, td 1300 ft, pulling 4¼ in csg and will straight ream to bottom.

FLORIDA

LAKE COUNTY—Oil Dev. Co. of Fla.'s Gulf Expl. Co. 1, se se 17-24-25, elev 120 ft, 12-in hole reamed to 2200 ft, arr set 9⅝-in csg td 2258 ft limestone & shale.

PINELLAS COUNTY—Dr. Edw. A. Hill et al's W. J. Meyers 1, ne ne 2-27s-25e, dk.

POLK COUNTY—Dr. Edw. A. Hill et al's Polk Co. Lbr. Co. 1, nw ne 32-25s-25e, dk.

ABBREVIATIONS

The following abbreviations, signs, etc., are used in completions and wildcat reports in THE OIL WEEKLY.

*—*dry hole abandoned well.*	owdd—*old well drilling deeper.*
‡—*salt water (completions).*	owpb—*old well plugging back.*
†—*junked and abandoned.*	pb—*plugged back or plugging back.*
¶—*million feet of gas.*	r—*reaming.*
abd—*abandoned.*	rog—*rig on the ground.*
bbls—*barrels.*	rur—*rigging up rotary tools.*
br—*building rig.*	rust—*rigging up standard tools.*
b.s.—*basic sediment.*	sd—*shut down.*
csg—*casing.*	sdtr—*sidetracking.*
co—*cleaning out.*	sg—*show gas.*
dd—*drilling deeper.*	si—*shut in.*
dk—*derrick.*	so—*show oil.*
dr—*drilling.*	so & g—*show oil and gas.*
fsg.—*fishing.*	spd—*spudding.*
ft—*feet.*	sr—*straight reaming.*
hfw—*hole full of water.*	sw—*salt water.*
in—*inches.*	td—*total depth.*
lcn—*location.*	ur—*underreaming.*
m—*milling.*	wih—*water in the hole.*
mim—*moving in materials.*	wo—*workover.*
mit—*moving in tools.*	wocs—*waiting on cement to set.*
mot—*milling on tools.*	wosr—*waiting on standard rig.*
n, s, e, w—*north, south, east, west.*	
oih—*oil in hole.*	

KANSAS

BARTON COUNTY—Torrey & Feaster et al's Feist 1, ne ne se 29-18s-11w, sd 3433 ft. Lario et al's Smith 1, sw nw nw 26-18s-13w, dr 1775 ft. Murphy & Morgan's Robinson 1, ne ne sw 21-16s-14w, ru. Witt et al's Murry 1, nw nw sw 14-17s-14w, dr 620 ft. Hilligoss et al's Schmidt 1, ne ne ne 27-19s-11w, mim. Torry & Feaster et al's Kempler 1, se ne ne 31-18s-11w, ru to dd.

COWLEY COUNTY—Earl Wakefield's Hanna 1, ne ne sw 2-31s-4e, td 2975 ft, 1500 ft oih. Johnson's Ferguson 1, nw sw se 17-30s-8e, td 2167 ft. Roth & Farout's Guthrie 1, se ne nw 30-33s-8e, mim. Carey et al's Short 1, ne ne nw 6-32s-4e, dr 725 ft. Aylward, Trees Oil Co. et al's Shields 1, sw sw sw 17-32s-6e, rur. Roth & Farout's Sherwood 1, ne nw sw, 11-31s-4e, rig. Winkler-Koch et al's Harlan 1-B, cs¼ nw ne 13-31s-7e, dr 1310 ft.

DICKINSON COUNTY — Dutch Oil Co.'s Phillips 1, cne nw 15-15s-1e, dr 3515 ft.

ELLIS COUNTY — Helmerich & Payne et al's Kuhn 1, nw sw ne 16-13s-20w, fsg 3900 ft. Twin Drlg. Co. et al's Goetz 1, sw sw se 3-14s-17w, dr 2915 ft. Reynolds et al's Walter 1, se ne sw 2-12s-18w, rig.

ELLSWORTH COUNTY — Slick-Pryor & Lockhart et al's Sturn 1, nw nw sw 26-17s-10w, lr 2990 ft. Empire's Dolechekl, sw sw sw 7-16s-7w, dr 101 ft.

GRAHAM COUNTY—Vickers Pet. Co. et al's Hutton 1, ne ne se 29-8s-22w, skid rig 30 ft west.

GRANT COUNTY—Piney O&G Co.'s Kennedy 1, csw¼ 10-29s-36w, dr 2482 ft.

GREENWOOD COUNTY—Mohawk Oil Co.'s Edgar 1-A, ne ne sw 2-28s-8e, dr 965 ft.

HARPER COUNTY — Marathon Oil Co.'s Zellers 1, csw nw 17-35s-8w, rig.

HARVEY COUNTY — Ok-Tex et al's Osborne 1, cse se 6-23s-3w, fsg 1966 ft.

HASKELL COUNTY — Helmerich-Payne's Elliott 1, csw¼ 30-29s-33w, set 12½-in csg 650 ft, wocs.

KINGMAN COUNTY—Lauck et al's Skilling 1, se se sw 33-27n-8w, sd 4061 ft.

LOGAN COUNTY—Alma Pet. Co. & McNelly's Watchorn 1, csw ne 13-15s-33w, td 5756 ft, D&A.

McPHERSON COUNTY — Whan et al's Stromquist 1, sw se se 2-19s-3w, dr 2400 ft.

NORTON COUNTY—Lario O&G Co. & Elwell's Kennedy 1, sw sw nw 22-3s-23w, dr 1018 ft. Helmerich & Payne et al's Collins 1, cne¼ 11-3s-25w, dig water well.

PRATT COUNTY — Skelly Oil Co. et al's Gilchrist 1, cse¼ 7-28s-11w, ur 7-in csg 4229 ft. Lario, Elwell & Atlantic's Lemon 1, se se nw 12-29s-13w, mim.

RENO COUNTY — Winkler-Koch et al's Brownlee 1, sw sw sw 31-24s-10w, cored 3815 to 3825 ft. Foraker et al's Hiett 1, se sw ne 34-24s-4w, ru to dd.

RICE COUNTY—Detrick et al's Conner 1, cne ne 28-19s-7w, sd 2765 ft. Empire O&G Co.'s Schroeder 1, sw se se 7-18s-9w, td 3240 ft, 600 ft oih, to test. Detrick et al's Monroe 1, cne ne 9-20s-7w, sd 975 ft. Douglas et al's Stolz 1, se se se 17-19s-10w, lcn. Skiles et al's Edwards 1, nw nw ne 3-18s-8w, rig. Franco-Central Pet. Co. et al's Shonyo 1, sw sw ne 11-18s-10w, lcn. Day's Mason 1, nw ne ne 28-21s-7w, dr 2975 ft.

ROOKS COUNTY—El Dorado Ref. Co. et al's Marshall 1, cse se 8-7s-17w, dr 3280 ft. Gillespie & Son's Low 1, ne ne nw 12-6s-18w, dr 1800 ft.

RUSSELL COUNTY—Coralenana's Berrick 1, ne nw ne 6-15s-13w, dr to 2965 ft, pb 2945 ft, est 200 bbls daily. Central Pet. Co.'s Boxberger 1, nw nw nw 36-15s-16w, dr 2650 ft. Davidson et al's Polcyn 1, se sw nw 6-14s-15w, dr 3030 ft. Phillips Pet. Co. & Sinclair Prairie Oil Co.'s Driscoll 1, nw nw se 31-15s-11w, spd. Sam Murphy et al's Enschutz 1, sw sw sw 10-15s-13w, ru. Murfin et al's Gorham Estate 1, ne ne se 29-14s-15w, ur 8-in csg 2500 ft. Coraleana's Diskon 1, se se se 30-15s-13w, lcn.

SEDGWICK COUNTY—Dickey Oil Co. et al's Wilbur 1, sw sw sw 15-27s-1w, dr 2725 ft.

STAFFORD COUNTY—Atlantic & Phillips et al's Community Brown 1, cnw ne 16-23s-13w, td 3920 ft, rust. Herndon Drlg. Co. & Atlantic Oil Co.'s Russell 1, cse nw 20-21s-14w, mim.

SUMNER COUNTY—Wilson et al's Clark 1, csl nw 15-35s-1w, dr 2598 ft. Pulse's Buss 1, nw nw nw 12-32s-2e, dr 1600 ft. Craft & Wilson's Nevitt 1, ne nw ne 36-32s-2e, spd & sd. Orcutt & Stewart's Newton 1, se se se 21-30s-2e, dr 50 ft.

TREGO COUNTY—Hansa & Lauck's Lang 1, se se nw 1-14s-21w, td 4134 ft, D&A. Vickers Pet. Co. et al's Secor 1, nw nw nw 25-15s-24w, sd 4472 ft. Central Commercial's Wagg 1, nw nw se 17-13s-21w, dr 1400 ft.

WOODSON COUNTY—Coulter, Davidson et al's Paske 1, nw nw se 25-15s-13e, fsg 1454 ft.

NORTH LOUISIANA

BIENVILLE PARISH—DeSoto O&G Co.'s Mower 1, ne ne 9-16n-10w, rur.

BOSSIER PARISH — Ark.-La. Gas Co.'s Werner B-1, 7-17n-11w, 9⅝-in csg 2578 ft dr 3555 ft shale & anhydrite. McKinney & Humphrey's Bulkley 1, ne sw 36-21n-13w, spd & setting csg. V. M. Miller et al's Curtis Plantations 1, se se 19-17n-12w, skid over for new hole. Producers O&G Co.'s Pettit 1, ne sw 17-17n-11w, elev 198 ft top chalk 1104 ft dr 4043 ft anhydrite. E. C. Edwards 1, se sw 27-18n-11w, install heavier rig, td 868 ft. Triangle Drlg. Co.'s Skannal Unit 1, ne sw ne 13-17n-12w, killed gas flow, mim to rebld dk & complete or deepen, td 2800 ft.

CADDO PARISH—W. F. Hyde's Thigpen-Herold 1, nw ne se 5-15n-15w, elev 281.5 ft, top Nacatosh 1143 ft, top chalk 1529 ft, top Blossom 2019 ft, dr 2712 ft shale. California-La. Dev. Co.'s Glassell 1, sw ne 11-19n-15w, owdd, dr 2035 ft.

CALDWELL PARISH—Critchett & Wood's Kyle 1, 18-11n-3e, junked at 1740 ft, skid 125 ft n for new hole. F. J. Scott et al's Hawkins 1, 42-14n-4e, lcn.

CLAIBORNE PARISH—E. T. Oakes et al's Patton Est. 1, ne ne 1-20n-5w, elev 357.3 ft, top red beds 3460 ft, top stringer anhydrite 3777 ft, massive anhydrite 4048-4118 ft, top anhydrite again 4160 ft sr to bottom td 4179 ft anhydrite. Ryan Oil Corp.'s Gladney 1, ne sw 27-20n-7w, elev 343 ft 10-in csg 718 ft. Annona chalk 2045-2637 ft, top Blossom 2913 ft top red beds 3580 ft, dr 4416 ft. Sugar Creek Synd's Addis Darrett 2, 31-21n-5w, 13⅜-in csg 696 ft top chalk 2169 ft dr 3400 ft shale (9000 ft test).

DE SOTO PARISH—E. B. Bird's W. H. Bagley 1, ne sw 20-14n-16w, lcn. Ed. Saffold et al's Thigpen--Herold 1, sw ne 33-13n-13w, base Ozan 1970 ft, sd 3005 ft shale. M. L. Stephens et al's Alston 1, ne sw 11-11n-16w, wosr, td 2055 ft. C. T. Ruffin's Elmo P. Lee 2, nw sw 3-13n-14w, 6-in csg 2827 ft, 700 ft oih, td 2841 ft. Jerry Ryan's Jackson 1, sw sw 1-11n-14w, dk & mir. Snow Drlg. Ca.'s Stell 1, 5-12n-16w, install heavier rig for 5000 ft test, td 200 ft.

GRANT PARISH—Alexander et al's Maxwell 1, se se 9-9n-1e, core green sandy shale 1516 ft.

JACKSON PARISH — Caldwell L&T Co.'s Burroughs Est. 1, ne nw 1-17n-1w, dk & mir.

LINCOLN PARISH — Ark.-La Gas Co.'s Fowler 1, nw sw se 10-17n-4w, gauged 71,385,000 ft saturated gas rock pressure 2140 pounds, td 5303 ft lime & shale.

MADISON PARISH—Southern Land & Explor. Co.'s Deltic Inv. Co. 1, nw nw 1-17n-12e, 8¼-in csg 2100 ft tested sw, sd, td 2206 ft.

NATCHITOCHES PARISH—Roy Raines et al's Fee 1, sw sw 28-9n-10w, going over hung drill pipe with csg, td 4303 ft. Wasita sand. Union Pet. Co.'s DeBlieux 1, ne nw 83-10n-7w top Midway 1989 ft top chalk 2657 ft dr 2706 ft chalk.

OUACHITA PARISH — American Liberty Oil Co.'s Golson 1, nw nw 25-17n-1e, elev 160 ft claimed so & sg 5304-56 ft 5½-in csg 5200 ft, tested sw slight so & sg, arr pb & perf csg to test 5100-15 ft old td 5381 ft lime & shale. J. B. Williams et al's J. C. Lipscomb 1, se nw 7-16n-4e, rur. Gus Primos et al's Arent 1, C 8-17n-4e, lcn.

RICHLAND PARISH — Morissey & Co.'s John Jones Est. 1, 15-18n-7e, mim. Chastain & Keilty's F. Slocum 1, 10-17n-7e, lcn.

SABINE PARISH—A. H. Tarver's Baker 1, 36-8n-12w, owdd, hole clean, dr 4202 ft. Claude H. Smith et al's Whitney Corp. 1, nw ne ne 19-10n-13w, rur (6000 ft test).

TENSAS PARISH—H. M. Jones' Hankins 1, 30-12n-10e, sp & sd.

WEBSTER PARISH—Bennett et al's Fulbright 1, ne ne 1-18n-10w, top Blossom approx 2400 ft dr 2640 ft sand. Lyons & Neely's Lee 1, nw sw se 1-21n-9w, spd 10-in csg 80 ft. Ohio Oil Co.'s R. L. Holloway 6760 ft w & 660 ft wc 23-21n-10w, mir (10,000 ft test). J. L. Edwards' Hooper 1, nw sw 8-17n-9w, dk. Red Hawk Oil Co.'s Mayfield 1, 9-23n-9w, rog.

SOUTH LOUISIANA

ACADIA PARISH — Woodley Pet. Co.'s Adams Smith 1, Bayou Mallet prospect, sec 14-7s-1e, dr shale 6690 ft.

CALCASIEU PARISH — Wheeler Oil Co.'s School Land 1, s of Iowa, sec 16-9s-7w, sd 7200 ft.

CAMERON PARISH—Magnolia's Broussard 1, Willow Lake prospect, sec 13-12s-9w, to make drill stem test 9250 ft. Pan American Prod Co.'s Lutcher Moore 1, Mud Lake prospect, sec 14s-11w, spudded and set surface csg.

IBERIA PARISH—Texas Co.'s State Lake Fausse Point 1, s flank of dome, sec 35-11s-8e, moving in heavy rig. Jefferson Lake Oil Co.'s Lake Pigneur 274, sec 12s-5e, drilling in side tracked hole at 8034 ft.

JEFFERSON DAVIS PARISH—J. K. Lewis' Lock Moore 1, Heckner prospect, sec 32-7s-6w, sd 2800 ft. Shell's Lacassine Irrigation Co. 1, Hayes prospect, sec 20-11s-5w, dr shale 7433 ft.

PLAQUEMINES PARISH — Southern Sulphur Co.'s Manhatten Fruit Co. 1, Venice dome, sec 26-21s-30e, dr shale 3154 ft. Wrather Oil Co.'s Hero 1, near Oakdale, sec 72-14s-24e, sd 5343 ft.

ST. MARTIN PARISH—Texas Co.'s State Lake Mengoulch 1, 3 mi n of Bayou Chene, sec 10-9s-9e, dr water sand 6648 ft. Tide Water's Smede 2, St. Martinsville prospect, sec 57-11s-6e, dk and ru.

ST. MARY PARISH—Herbon Oil Co.'s Roane 1, w of Charenton, sec 40-13s-9e, dr shale 7158 ft.

ST. TAMMANY PARISH—Danciger Oil & Refining Co.'s Holdsworth 1, Slidell prospect, sec 26-9s-14e, dr shale 4005 ft.

TERREBONNE PARISH—Shell's Realty Co. 1, Houma Townsite prospect, sec 103-17s-17e, dr shale 3687 ft.

MICHIGAN

ARENAC COUNTY—Deep River Oil Co.'s Stoske 1, 19n-4e-27, sd 2750 ft.

BAY COUNTY—M. C. Fordyce's Suszko 1, 18n-3e-11, pb from 2987 to 73 ft, to acidize.

CHIPPEWA COUNTY — F. D. Barton's Kretten 1, 41n-7s-17, rig.

CLARE COUNTY—Sun Oil Co.'s Woodward 1, 19n-3w-24, dr 1150 ft. Fred Siegle's Fee 1, 17n-5w-26, rig.

CLINTON COUNTY—Rex Oil Co.'s Parker 1, 7n-1w-32, sd 1200 ft.

ISABELLA COUNTY—Pure Oil Co.'s McClintic 1, 14n-6w-15, sg 1435-50 ft, rig damaged by fire, sd.

GENESEE COUNTY — Rowmor Oil Co.'s Gillespie 1, 5n-5e-3, dr 1300 ft. Smith Petroleum Co.'s Jolly 1, 9n-8e-5, sd 1400 ft.

GLADWIN COUNTY — United Producers' Nettleton 1, 17n-2e-24, fsg 3450 ft.

GRATIOT COUNTY—Miller Brothers' Ryan 1, 9n-1w-22, dr 2200 ft. Charles Weller's Saxon 1, 9n-3w-28, dr 1800 ft. T. F. Caldwell's Brannon 1, 9n-4w-6, dr 1500 ft. Harvey William's Smith 1, 9n-2w-29, lcn.

HURON COUNTY—Wallace Markle's Opaka 1, 15n-11e-4, dr 2300 ft.

JACKSON COUNTY—Petroleum Gas Co.'s Mulvaney 1, 1s-1e-31, sd 2200 ft.

KENT COUNTY—National Mineral's Lewis 1, 10n-11w-5, dr 2870 ft. James Barton's Smith 1, 10n-10w-29, dr 200 ft. Rex Oil Co.'s Johnson 1, 10n-12w-36, dr 250 ft.

LAKE COUNTY—C. W. Teater's McCabe 1, 20n-12w-26, dr 610 ft. Frank Lyon's Allerton 1, Pleasant Plains Twp., sec 33, dr 490 ft.

MISSAUKEE COUNTY — M. J. Ingold's Donley 1, 22n-8w-31, dr 530 ft.

MONROE COUNTY—A. V. Oil Co.'s Vandercook 1, 6s-6e-30, dr 2000 ft.

NEWAYGO COUNTY—E. M. Neff's Sipley 1, 16n-13w-26, dr 1050 ft. J. G. Buell's Smith 1, 14n-11w-29, lcn.

OSCEOLA COUNTY—L. B. Ayre's Bertz 1, 18n-7w-21, fsg 750 ft.

SAGINAW COUNTY—Great Northern Oil Co.'s Olmstead 1, 13n-3e-23, dr 790 ft.

TUSCOLA COUNTY—L. B. Ayre's Kindler 1, 15n-7e-24, dr 1900 ft. Smith Petroleum Co.'s Boyce 1, 14n-7e-24, dr 800 ft.

WEXFORD COUNTY—M. J. Ingold's Berthold 1, 22n-9w-14, lcn; Webb 1, 22n-9w-13, pd 3864 ft.

MISSISSIPPI

FRANKLIN COUNTY—Fred E. Courson et al's Homochitto Lbr. Co. 1, sw se sw 31-6n-2e, elev 380 ft dr 3530 ft Sparta.

GEORGE COUNTY—United Gas Pub. Serv. Co.'s Williams Unit 1, sw sw 6-1s-5w, dr 6608 ft.

LA FAYETTE COUNTY—W. L. Stewart et al's Russell 1, ne sw sw 9-10s-1w, sd 2446 ft.

LAUDERDALE COUNTY — Dalton Dev. Co.'s Bounds 1, ne se 3-6n-15e, co to test 1525 ft.

SMITH COUNTY—Howie & Lewis' Broadfoot 1, 15-4n-7e, sd 1500 ft.

WARREN COUNTY—Harry W. Elliott's R. L. Parker 2, 14-14n-1e, installing separator, td 1690 ft. R. L. Parker 3, 14-14n-1e, sd 2075 ft.

WASHINGTON COUNTY — Perkins & White's Mary B. Lee 1, 1-14n-8w, elev 124 ft top Midway black shale 2662 ft sd 2996 ft shale.

WINSTON COUNTY—Jack Vale's Moody 1, sw nw sw 3-13n-14e, elev 540 ft 65⅝-in csg 2216 ft co td 2230 ft.

MONTANA

CARBON COUNTY—Bailey Round Butte Oil Co. 1, ne se 3-6w-22e, dr 1500 ft.

FERGUS COUNTY—Rolland et al's 1, ne nw nw 13-17n-23e, dr 831 ft.

GALLATIN COUNTY—Montana Gas & Petroleum Co. Tice 1, ne ne ne 28-1n-2w, dr 2610 ft.

ROSEBUD COUNTY—Birney Oil & Gas Co. 1, sw sw sw 6-6s-42e, dr 608 ft.

PONDERA COUNTY—The Texas Co.'s Unit 1-2, cnw 21-30n-5w, dr 305 ft.

NEW MEXICO

EDDY COUNTY—Geo. F. Getty Oil Co.'s Andrew Docley 7, swc nw 24-20s-29e, elev 3309 ft, top Pennsylvania lime 6035 ft, used 3000 gals acid in black lime 6436-6671 ft, tested small show gas, dry & abnd in black lime 6683 ft.

LEA COUNTY—Amerada's M. J. Byrd 1, c nw nw 1220s-36e, Monument area, lcn; State 1-H, c sw se 1-20s-36e, cem csg 2207 ft; State 1-I, c ne nw 2-20s-36e, cem csg 262 ft; State 1-J, c sw se 2-20s-36e, rog; State 2-D, c sw nw 1-20s-36e, rog; Wier 1, c sw sw 35-19s-36e, rog. Barnsdall Oil Co.'s A. Cooper 2, c sw nw 7-20s-37e, Monument area, cem 9⅝-in csg 2391 ft. Gypsy Oil Co.'s B. V. Culp 2, c sw nw 19-19s-36e, Monument area, elev 3709 ft, swabbed dry at 3985 ft, dd to 4040 ft, used 2000 gals acid, flowed 235 bbls oil 12 hrs via tubing and complete; Steve B. Taylor 1, c se ne 24-18s-38e, 2¼ mi ne Hobbs field, elev 3613 ft, top anhydrite 1950 ft, top Bowers sand 3605 ft, bailed in 5½-in csg at 4580 ft, tested few gals oil, coring saturated lime 4592 ft. Harry Leonard et al's C. W. Justis 1, swc nw nw 20-25s-37e, elev 3067 ft, pb fr 3501 to 2970 ft, pulling pipe to make gasser. Maljamar O. & G. Corp.'s Baish 5, c sw ne 21-17s-32e, Haljamar area, elev 4036 ft, dr salt 2000 ft. N. G. Penrose & Rowan Drl. Co.'s Will Cary-Humble 1, c nw sw 22-22s-37e, elev 3353 ft, top anhydrite 1067 ft, top lime 2458 ft, dr 2660 ft. Phillips Pet. Co.'s State 1, c ne sw 19-19s-37e, Monument area, elev 3702 ft, dr 3085 ft. Repollo Oil Co.'s M. J. Byrd 1, nec nw ne 11-20s-36e, Monument area, elev 3585 ft, drilled by junk, cem csg 3800 ft; Barber 1, swc se ne 7-20s-37e, sp. Republic Prod. Co.'s Selby-Maveety 2, c nw sw 35-19s-36e, Monument area, rig. Shell's State 1-C, c ne ne 24-19s-36e, Monument area, elev 3714 ft, cem 7-in csg 3894 ft. Skelly Oil Co.'s State-Monument 1, c se se 15-19s-36e, elev 3722 ft, dr 3790 ft; State 1-D, c se se 1-20s-36e, elev 3569 ft, dr 980 ft. Skelly et al's B. F. Harrison 1, c nw sw 5-23s-37e, elev 3352 ft, top anhydrite 1190 ft, top salt 1280 ft, dr lime 3670 ft. Superior Oil Co.'s State 3-A, c se ne 2-20s-36e, elev 3592 ft, cem csg 2441 ft. The Texas Co.'s J. M. Dean-Pure 1, c se sw 28-22s-36e, elev 3498 ft, top anhydrite 1330 ft, dr 1420 ft; H. T. Mattern 1, c nw sw 20-19s-37e, elev 3647 ft, cem csg 1380 ft; State 1-E, c sw sw 1-20s-36e, Monument area, elev 3577 ft, cem csg 3810 ft; State 2-E, c se sw 1-20s-36e, rog; State 3-E, c nw sw 1-20s-36e, rog; State 1-F, c ne se 24-19s-36e, elev 3701 ft, testing 3900 ft. Sam K. Vierson & Brown's W. D. Robinson 1, c nw se 14-11s-32e, elev 4355 ft, dr 3500 ft.

OKLAHOMA

ALFALFA COUNTY—Tex-O-Kan.'s Acre 1, csw ne 14-24n-11w, dr 6692 ft.

ATOKA COUNTY—Vierson et al's Williams 1, ne sw nw 34-2s-10e, dr by bit 2650 ft. Pierce's Aetna Life Ins. 1-A, nw sw ne 10-1n-13e, dr 2352 ft.

BEAVER COUNTY—Anderson-Kerr et al's Davis 1, csw se 36-5n-26 ECM, dr 4550 ft.

BECKHAM COUNTY—Star's Blair 1, nw nw se 32-9n-26w, dr 180 ft.

BRYAN COUNTY—Selby Oil & Gas Co.'s Gilbert 2, sw ne sw 25-8s-7e, dr 810 ft.

CADDO COUNTY—Denver P&R Co.'s Sah-Cam 1, cse se 33-10n-10w, td 8550 ft. Turner et al's Sapin 1, ne ne sw 1-5n-11w, dr 3183 ft. Lee et al's Horton 1, ne ne ne 9-6n-13w, dr 1880 ft.

CARTER COUNTY—Carter Oil Co.'s Humble-Williams 1, sw ne sw 27-2s-3w, dr pipe stuck 8088 ft. Louis Sykes' Bryd 1, sw se sw 4-2s-2w, td 1727 ft.

CLEVELAND COUNTY—Hall-Briscoe Inc's Fant 1, sw sw ne 27-10n-2w, sd 7500 ft. Amerada-Stanolind et al's Parsons 1, sw sw se 30-9n-1e, dr 1210 ft.

COAL COUNTY — Carter Oil Co. et al's Thompson 1, csl ne nw 34-2n-9e, td 6235 ft, bailed down to 4400 ft. Southern Oil Co.'s Fish 1, sw sw sw 6-1s-8e, dr 563 ft.

COMANCHE COUNTY—George Pace et als' Spencer 1, sw sw sw 21-3n-10w, dr 2420 ft. John Nicholas' Hausehold 1, ne ne sw 8-2n-10w, sd 790 ft.

GARFIELD COUNTY—Herndon Drlg. Co. et al's Whitaker 1, se se se 27-24n-3w, dr 4903 ft. McBride et al's Gage 1, se se ne 27-22n-3w, td 1090 ft.

GARVIN COUNTY—Suggett & McElreath's Allie Camp 1, ne ne se 22-4n-1w, dr 4190 ft. Orbit Oil Co.'s Federal Bank Land 1-A, se sw sw 10-4n-3e, dr 2345 ft.

GRANT COUNTY — Stanolind's Crouse 1, cne sw 29-25n-8w, dr to 4725 ft, pb, to test. Shell Pet. Corp.'s Foster 1, nw nw se 30-27n-8w, td 5962 ft, bailing. Wentz et al's Wirtz 1, se se nw 22-28n-4w, dr 5041 ft. Morton's Warren 1, se se nw 19-29n-4e, fsg 2094 ft. Southern Oil Co. et al's Allen 1, sw sw se 36-26n-4w, dr 3500 ft.

HUGHES COUNTY—Civils et al's Montgomery 1, nw sw nw 7-9n-8e, sd 2040 ft. Schumacher et al's Schumacher 1, ne nw ne 23-5n-10e, ru mach.

JEFFERSON COUNTY—Barrett's Mose 1, cn½ nw sw 9-6s-7w, sd 860 ft. Twin State Oil Co.'s Bassett 1, nw sw sw 16-5s-7w, dr cement 345 ft.

JOHNSTON COUNTY — Equitable O&G Co.'s Bellsey 1, ne ne sw 12-2s-4e, dr 895 ft. Moore & Wirick's Westheimer & Daube 1, se nw ne 19-3s-4e, dr 640 ft.

KAY COUNTY—Helmerich & Payne's Roth 1, sw sw sw 8-28n-2w, dr 1870 ft.

KIOWA COUNTY—Rajah et al's Stone 1, cse ne 34-7n-17w, woc.

LINCOLN COUNTY—Garfield Buell et al's Seward 1, ne nw se 25-14n-3e, td 5182 ft, D&A. The Texas Co.'s Vanderpool 1, nw sw se 11-16n-3e, dr 2630 ft. Stanolind-Amerada's Crawford 1, ne ne se 35-15n-2e, dr 1725 ft.

LOGAN COUNTY — Stanolind-Amerada & Eason's Gregg 1, sw sw ne 20-18n-4w, skid rig 50 ft south. The Texas Co.'s Wood 1, sw sw ne 34-15n-5w, td 7100 ft. Springrose Drlg. Co. et al's Wright 1, sw sw nw 32-15n-1e, rur.

LOVE COUNTY—Sinclair Prairie Oil Co.'s Stockton 1, se se sw 26-6s-2w, sd 6907 ft. Amerada & Stanolind's Westheimer & Daube 1, sw se sw 27-6s-2e, td 2747 ft.

MARSHALL COUNTY — Neff & Godfrey's Stagsdell 1, sw nw nw 1-5s-6e, dr 128 ft. Singley's Vickers 1, nw sw nw 22-7s-4e, spd 20 ft. Robb's Vittetoe 1, cne se 11-5s-4e, dr ahead. Smith's Chestnut 1, ne ne ne 23-8s-5e, dr 495 ft.

McINTOSH COUNTY—I.T.I.O. Co.'s Toncred 1, sw sw ne 9-9n-14e, rust.

OKFUSKEE COUNTY—Sunray's Culla 1, ne sw ne 13-12n-8e, td 4194 ft, pb to 4105 ft, flowed 120 bbls oil 2 hrs. Sherry et al's Washington 1, sw sw ne 21-13n-7e, td 3210 ft.

OKLAHOMA COUNTY—Sinclair Prairie Oil Co.'s Corbett 1, ne nw ne 17-13n-3w, pb 6673 ft, 90 bbls oil 19 hrs, est 10 mil ft gas. Sinclair Prairie Oil Co. & Slick-Urschel's Kratky 1, se se ne 19-13n-3w, td 6778 ft, pb 6730 ft, wocs. Mid-Continent Pet. Corp.'s Dahl 1, ne ne nw 8-13n-3w, cellar & pits.

OSAGE COUNTY—The Texas Co.'s Osage 1, sw sw se 22-24n-6e, td 2955 ft, pb 2842 ft, sd.

PITTSBURG COUNTY — Vaughn et al's Chunn 1-B, ne se nw 29-4n-14e, sd 1560 ft.

PONTOTOC COUNTY — Continental's McChunn 1, csw nw 12-1n-7e, td 4621 ft, flowed 2774 bbls oil 5 hrs & 28 min, 6 mil ft gas. Gypsy Oil Co.'s Emry 1, sw sw ne 15-2n-6e, dr 3963 ft. Southern Oil Co.'s Perry 1, sw sw nw 11-4n-6e, sd 2741 ft. McBride et al's Chester 1, se se ne 26-4n-4e, dr to 1163 ft, set 10-in csg 902 ft. Delaney's Fox 1, sw ne se 2-1n-7e, br.

POTTAWATOMIE COUNTY — Ross Oil Co. et al's Sparkmen 1, se se ne 33-8n-4e, 4137 ft, rust.

PUSHMATAHA COUNTY — Whitehead's Messer 1, se sw sw 35-3s-18e, sd 3520 ft.

ROGER MILLS COUNTY — Anderson & Kerr et al's Teeter 1, cse se 2-17n-25w, dr 2000 ft.

SEMINOLE COUNTY — Deep Rock Oil Corp.'s Robert 1, sw nw nw 32-9n-8e, td 4590 ft, pb 1915 ft, to test. Clyde McMichael's Miller 1, sw sw nw 24-10n-5e, lcn. Twin Oaks Oil Co.'s Dorris 1-A, se se sw 31-10n-7e, lcn.

STEPHENS COUNTY — Shasta Oil Co.'s Fuqua 1, ne nw nw 13-1s-7w, dr 1200 ft. Nash et al's Sadler 1, nw nw se 30-2n-4w, sd 180 ft. Angle et al's Dook 1-A, se sw sw 1-1s-5w, lcn.

TILLMAN COUNTY — Gypsy Oil Co.'s Schenck 1, se nw se 31-1s-16w, dr 2298 ft.

WASHITA COUNTY — McWhirter et al's Fee 1, sw sw sw 34-8n-19w, dr 1200 ft.

EAST TEXAS

ANDERSON COUNTY—Standard Oil Co.'s Hombs-Robinson 1 (57-ac), John Adams sur, Long Lake area, dr 3930 ft. Tide Water Texas Seaboad's Shaw & Cern 3 (1216-ac). Daniel Parker sur, Long Lake area, elev 301 ft, top Pecan chalk 3525 ft, dr 3910 ft; Frank Evans 1 (58.76-ac), John Adams sur, Long Lake area, rig.

BOWIE COUNTY—Ben J. Russell et al's O. A. Hall 1, J. W. Weaver sur, 4 mi ne Bassett, elev 316 ft, top Pecan chalk 1646 ft, dr 1950 ft. Tex-Ark Oil Co.'s J. B. Hamilton 1 (40-ac), Jessie Milam sur, elev 272 ft, sd 1120 ft. Woodley & Bentley's J. D. Lumpkin 1 (245-ac), John McDermott sur, 1¼ mi sw Dalby Springs, sd 120 ft.

CASS COUNTY—American-Liberty Oil Co.'s J. B. Rodgers 1 (167.95-ac), C. M. Robinson sur, Rodessa area, elev 238 ft, top Red Beds 3480 ft, dr 4490 ft. United Production Corp.'s Lake Holt (Thurmond Unit) 1 (6876-ac), John H. Coleman sur, w edge Rodessa field, elev 314 ft, Annona chalk 1957-2450 ft, top anhydrite 4996 ft, dr 5760 ft. R. W. Norton Tr.'s L. A. Haywood 1 (440-ac), P. Evans sur, west Rodessa field, elev 222 ft, top Pecan chalk 1966 ft, dr 2830 ft. T. H. McElvain et al's C. M. Beckett 1, (7.62-ac), John Collum sur, west Rodessa area, lcn.

CHEROKEE COUNTY—Rowe & Hynes' H. L. Walker 1 (51-ac), A. Gibson sur, 1½ mi nw Mount Selman, rig.

COLLIN COUNTY—Port Bolivar O. & R. Co.'s Clarkston-During 1-A, Wm. Creager sur, elev 722 ft, base Austin chalk 368 ft, top Trinity sand series 2110 ft, dr 3740 ft; J. Shirley 1-A, Jas. Sorrell sur, elev 684 ft, base Austin chalk 350 ft, Washita lime 1778-81 ft, jkd core test, td 1963 ft.

ELLIS COUNTY—Beasley O. & G. Co.'s Mrs. Erie Roller 1 (200-ac), Ruidoso Irrigation Co. sur, 1 mi s Crisp, sp & sd.

FREESTONE COUNTY—J. P. Haley & Chas. Young's G. Cochran 1 (380-ac), D. Bullock sur, 8½ mi se Teague, elev 481 ft, Pecan chalk 3130-3220 ft, Austin chalk 3875-4216 ft, top Woodbine (dry) sand 4620 ft, dr 4820 ft.

GRAYSON COUNTY—Olson Drl. Co. et al's Southwestern Life Insurance Co. 1 (160-ac), J. C. Jamison sur A-865, 3 mi n Pottsboro, elev 767 ft, dr 3630 ft. Port Bolivar O. & R. Co.'s Creed Taylor 1, J. Fitzhugh sur, 3 mi se Gunter, dr 3670 ft.

GREGG COUNTY—C. L. Porter et al's Mrs. F. J. Glover 1, Geo. Melton sur, elev 419 ft, Pecan chalk 2790-3165 ft, top Austin chalk 3731 ft, top Woodbine sand 3890 ft, tested sw, td 3895 ft, dry & abnd.

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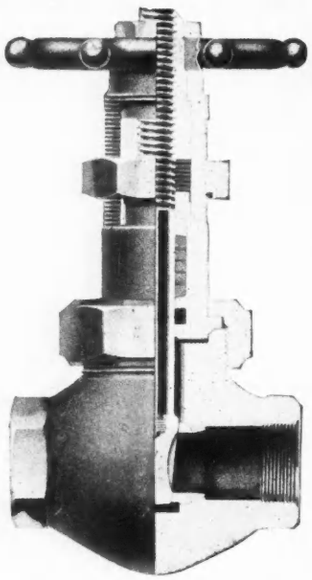

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HOUSTON » Texas

HOUSTON COUNTY—Housh, Thompson & Benzi Oil Co.'s Houston Timber Co. 1, 1&GN Ry. sur No. 31, A-599, 2 mi n Kennard, elev 383 ft, top Midway 4300 ft, top Navarro chalk 5720 ft, top Pecan chalk 5816 ft, dr 6210 ft.

HENDERSON COUNTY—C. & G. Oil Co.'s Sterrett 1, dr 1115 ft. L. V. Marmar et al's I. W. Brown 1 (18¾-ac), R. H. Pearson sur, nw Cayuga field, lcn. H. M. Wilson et al's fee 1 (943-ac), Thomas Caro sur, 5 mi n Malakoff, dr 750 ft.

HILL COUNTY—Roger Lacy et al's J. H. Atchison 1, E. Carroll sur A-133, 5 mi w Hillsboro, Austin chalk 130-428 ft, dr limey-shale 1080 ft.

KAUFMAN COUNTY—C. C. Pearson et al's G. W. Martin 1 (100-ac), W. F. C. Butler sur, elev 429 ft, Austin chalk 1940-2200 ft, sd 2402 ft.

LAMAR COUNTY—Bruce Bros. et al's Chas. Price 1, Wm. Nelson sur, 1 mi w Trout, elev 484 ft, sd 335 ft. L. W. Dennis et al's W. C. Clark 1, G. H. Hall sur, A-402, 3 mi ne Reno, lcn. L. W. Dennis Tr.'s Effie Lawrence 1, T. B. Roundtree sur, 2 mi ne Blossom, dk. Geo. Greer et al's C. Marshall 1 (640-ac), M. E. P. Ry. sur, 7 mi ne Blossom, lcn. North Texas Synd.'s Alice Wright 1 (163.3-ac), Alfred Moore sur, 2 mi ne Caviness, top Woodbine series 400 ft, top Red Beds 636 ft, top Georgetown lime 760 ft, top Paluxy 1332 ft, sd 2466 ft. Texas Gulf Pet. Co.'s A. L. Darnell 1 (40-ac), H. L. Williams sur, 4 mi ne Paris, elev 544 ft, Austin chalk 816-864 ft, top Woodbine 948 ft, top Red Beds 1002 ft, fsh 2620 ft.

LIMESTONE COUNTY—David J. Crawford et al's Mary Ward 1 (28-ac), Pedro Varela sur, re-cem csg 3001 ft.

NAVARRO COUNTY—L. N. McCulloch et al's Berry Bros. 1 (35-ac), W. W. Moss sur, Austin chalk 751-1060 ft, sd 1490 ft.

RAINS COUNTY—W. A. Allen, Geo. W. McClung & Harry B. Baker's Ida Bullard 1 (75-ac), Nancy Brantley sur, 2 mi sw Emory, rog & sd; S. P. Cain 1, (98½-ac), J. Harges sur, A-109, 1 m nw Emory, lcn; Mrs. Olin Giles 1 (77-ac), Thos. Cunningham sur, 6½ mi sw Emory, dk.

RED RIVER COUNTY—J. S. Abercrombie Co.-Harrison Oil Co.'s Southern Pine Lumber Co. 1, Joshia Davidson sur, 12 mi nw Clarksville, lcn. W. G. Clark & R. H. Chew's J. F. Brooks 1 (321-ac), Ben Gooch sur, ½ mi s Bagswell, elev 484 ft, dk. Don F. Cleary & Bros.' Oscar Mowery 1 (20-ac), J. Bowerman sur, 10 mi n Clarksville, tested sw with show heavy oil, dry & abnd 1144 ft. Garson & Seigel's W. T. Morris 1 (351-ac), Joseph Guest sur, 1 mi s Detroit, sd 750 ft.

RUSK COUNTY—J. W. Shipman et al's Citizens Nat'l Bank (L. T. Burton) 1-A (125-ac), J. J. Y'Barbo sur, 4 mi ne Henderson, elev 432 ft, sd 2460 ft.

UPSHUR COUNTY—Ed. S. Holman et al's G. J. Daniels 1 (47½-ac), Ira Stephenson sur, 3 mi s Prichett, elev 408 ft, Pecan chalk 2580-3011 ft, Austin chalk 3591-3677 ft, top Woodbine series 3709 ft, top Georgetown lime 4134-4193 ft, dry & abnd. J. K. Wadley et al's M. A. Hill 1 (77-ac), J. M. Dunn sur, Jamestown area. sp.

VAN ZANDT COUNTY—J. H. "Bill" Gilliam et al's E. S. Marten 1 (416-ac), Jas. Hamilton sur, A-407, 3 mi ne Wills Point, lcn. B. G. Byers et al's Mrs. E. S. Williams 1 (92-ac), Dan Smith sur, 1½ mi nw Wills Point, elev 486 ft, Austin chalk 2690-3070 ft, dr 3210 ft. American Liberty Oil Co.-Pioneer Exploration Co.'s E. N. Sides 1 (23-ac), J. Denman sur, 8 mi sw Canton, elev 541 ft, Pecan chalk 2652-2813 ft, top Austin chalk (broken) 3540 ft, hard chalk 3590-4120 ft, top Woodbine series 4554 ft, dry & abnd in lower sand, td 4875 ft.

WOOD COUNTY—Westgate O. & G. Co.'s Wood Co. Mineral & Dev. Co. 1 (1200-ac), M. Rentararez sur, 14 mi e Mineola, elev 405 ft, Pecan chalk 3156-3330 ft, broken chalk to 3390 ft, Austin chalk 4745-5092 ft, dr 5115 ft. N. M. Wilson et al's E. B. Germany 1 (1-ac), J. Simpkins sur, Alba townsite, lcn.

HARRISON COUNTY—Adams & Bird's Washburn Lbr. Co. 1, F. Jordan sur, dk & mir. Hanover et al's Buchanan 1, W. M. McIlvain sur, elev 353 ft, dr 3948 ft.

PANOLA COUNTY—Steve Blazek's Robt. Johnson 1, J. Johnson sur, est 2 mil ft gas & spray oil, wo gauge td 1983 ft. Claude Bell's Tatum 1, Jno. McAdams sur (44-ac), lcn. Lansbury & Scott's Dan Campbell 1, Jno. McAdams sur (5-ac), lcn. McAneny & Flinchbaugh's G. H. McCormick 1, Jas. P. McAdams sur, elev 386 ft, 7-in csg 2654 ft, tested small sg 2674 ft, top Annona chalk 2884 ft, dr 2920 ft.

SHELBY COUNTY—C. A. Parker et al's W. C. Windham 1, A. H. English sur, dk. J. A. Reynolds' Polley 1, Wm. Whistler sur, mim. H. A. Stebbinger's Pickering Lbr. Co. 1, C. F. Henry sur, spd dr 703 ft. Tarbud Oil Co.'s Pickering Lbr. Co. 1, W. D. Woodfin sur, owdd, hole clean arr deepen, td 3711 ft. Cliff Stovall et al's Pickering Lbr. Co. 1, dr 2460 ft shale.

SOUTH TEXAS

ATASCOSA COUNTY—R. C. Lee, Trustee (Atascosa Trust) U. A. Doumch 1, 152-ac tr, blk 10, J. T. Russell survey No. 1222, 3 miles north Poteet, sp and sd. R. McIntyre's H. A. Billinck 1, J. B. Woodleff sur No. 246, 7½ mi e Coughran, mim.

BANDERA COUNTY—Palm Winn Oil Co.'s R. B. Watson 1, A. Curver sur No. 71, 2 mi n Medina City, sd 2035 ft. Plateau Oil Co.'s R. G. Garrison 1, sec 506, GC&SF sur, 8 mi sw Medina City, elev 1831 ft, dl, dr 5210 ft.

BASTROP COUNTY—Joe Mills' W. W. Litton 2, A. Navarro sur, N. Cedar Creek area, sd 2115 ft. Swearingen & White's Traveler's Insurance Co. 1, 780 ft sl, 1150 ft wl 700-ac tr, 5 mi w Cedar Creek, lcn. Winters & Russell's D. B. Lane 1, 101-ac tr, J. Standifer sur, 6 mi sw Elgin, ru.

BEE COUNTY — Geo. M. Church's Webb-Hearn 1, in 92-ac lease, E. Ryan sur, 2000 ft se discovery well Beeville field, dr 1500 ft, 10 in csg set 1201 ft. H. H. Coffield's A. C. Cowie 1, blk 6, Peter Allen sur No. 170, on Live Oak County line, sw of Plummer field, dr below sur csg. LaSalle Oil Co.'s (Bill Brady) G. A. Ray 1, Anna Burk sur, 2 mi e Beeville, sp. Roger O&G Co.'s Fannie Goree 1, center blk 20, T. B. Barton sur, w of Mineral, ru. D. C. Smith's Willis A. Robertson 1, T. B. Barton sur, 1800 ft se discovery well Plummer field, elev 393 ft df, sand 3051-59 ft, dst 125 ft oil and mud 12 min, set csg, dr out plugs. Worth Oil Co.'s Rutledge 4, A. Hadley sur, Patent 364, Rutledge area, lcn.

BEXAR COUNTY — American Gas Co.'s Oliver No. 5, M. F. Rodriguez sur, 400-ac tr, re-instatement, straightening hole 2985 ft. Carter & Ingersoll's Louis Mann 1, 60-ac tr, John Christopher sur, 3 mi s Von Ormy, sd 290 ft for 10 inch csg. James B. Cunningham et al's D. F. Ridder 1, Baerrera sur, abs 50, 2 mi e McDonna, still sd 860 ft. Fay T. Chew et al's Bonkowski 1, 130-ac tr, sec 9, Jacinto Pena sur, 1½ mi e Adkins, lcn, dropped. Dorine Oil Co.'s Sidney Haywood 1, 1500 ft e Tudyk well, sd 710 ft. Joe Deupree's R. S. Coffey 1-A, F. Rodriquez sur, 7 mi s San Antonio, td 1040 ft, prep to dd. Nick Marosis's L. G. Wisdom 1, 9.73-ac tr, F. Rolen League & Labor sur No. 48, at Von Ormy townsite, mir. Burt Mowinkle's Joe Kutzur 1, S. F. Longeville sur, e of S. A., dr 250 ft. Carrol G. Raborn's Claud McCauley 1, Wm. Harris sur No. 52, 4 mi s San Antonio, sd 954 ft. H. B. Starkey's (was Joseph H. Parker) M. McCloskey 1, F. A. Desaque sur, 5 mi nw Somerset, sand and sandy shale 722-79 ft, completing. F. M. Shaver's A. W. Bitter 1, J. M. Baerrera sur, near McDonna, td 854 ft. making pumping test; A. W. Bitter 2, mim. Fred Thorman's Salm 1, Peter N. Hayes sur No. 3, 2 mi s of Martinez, sd 50 ft. Jacob Wolff's Augusta Kurz, F. Rolen League & Labor sur No. 48, Von Ormy townsite, dr 400 ft.

BLANCO COUNTY—R. T. Rowe & W. E. Nixon's Polk Morrisey 2, T. H. Webb sur No. 11, 2½ mi e Blanco City, sd 250 ft.

CALDWELL COUNTY — Ballard & Whitting's A. G. Bridges 1, S. Seal sur, sd 2232 ft. S. S. Cargill's Damerau 3, Dillard Cooper sur, Branyon area, sd 2100 ft. Detroit-Texas Dev. Co.'s W. P. Dunlap 3, S. F. Sanders sur, Dunlap area, mill 2322 ft. J. J. Elam et al's Francis-Brown-Cochran 1, W. F. Young sur, 5 mi e Luling, sp. W. C. Jenning's McMahon 1, James Pinchback sur, se of Lockhart, prep to sp. Max W. Koenig, Inc.'s W. J. Tiller 8, John Henry sur, Luling, comp 2104 ft, 14 BPD on pump. Marts & Beavan's 1, ¼ mi e Lytton Springs, mim. Port Isabel O&G Co. & H. H. Weinert's M. T. Baker 1, 167-ac tr, G. W. James league, ne McMahon, coring 2765 ft. R. Y. Walker, Walker Bros. 2, S. Seal sur, sd 2036 ft.

CALHOUN COUNTY—Continental Oil Co.'s Am. Nat'l Realty Co (Moody) 3, sec 6, blk C. P. Garcia sur, 9 mi se Seadrift, prep to sp. Crown Central Pet. Corp.'s Wilson 1, A. Esparza sur, Port Lavaca area, td 6315 ft, ds stuck 6150 ft. Matagorda Oil Corp.'s Brundrett Est. 1, lot No. 294, Brundrett Est. 1, J. Power and J. W. Hewitson League 2, Matagorda Island, sd 176 ft. Plymouth Oil Co. & Humble O&R Co.'s Mrs. E. Welder 1, Gardner Smith sur, ½ mi w Heyser, N. Green Lake, dr 2615 ft.

CAMERON COUNTY — J. F. Anderson's Turfitt 1, blk 397, San Benito sub, Espiritu Santos gr, 3 mi ne Rio Hondo, sd 5194 ft. W. T. Daniels & King-Woods Oil Co.'s Port Isabel Co. 1, Center lot 17, shares 29, 30 and 31, Buena Vista gr, 6 mi north Bayview, sp and sd, wor.

DE WITT COUNTY—R. Bourke's Steinman 1, Uriah Blue sur, 6 mi s Yoakum, sd 2408 ft.

DIMMIT COUNTY — Diamond Half Oil Co.'s A. Eardley Est. 2, E. A. McCarquodale sur, 201¼-ac tr, 1980 ft e No. 1, prep to set 387 ft csg, hole caving.

DUVAL COUNTY — The California Co.'s Gruy Est. 1, sec 157, 2 mi e Kohler area, td 3777 ft, pb and set csg, perf 2541-71 ft, swabbing. J. H. Chandler's Rita S. de Pena 2, 4290 ft swl, 1394 ft nwl Pena tr, sh 4, Mesquite gr, dk. Harvey & Henderson's J. F. Welder heirs 1, 990 ft el, 330 ft sl ne se sec 381, 2 mi w Seven Sisters field, dr below sur cas. Chas. Daubert et al's D. F. Kreis 1, sec 518, 6 mi e Loma Novia, dr water well. Highland Oil Co.'s Bishop Duval Land Company 1, section 76, ½ mi w production, dk. Howard Pet. Corp.'s G. Ruiz 1, 330 ft nel and nwl of sec 5, e of Loma Novia, lcn. P. K. Kelly's Tinney Est. 1, sec 8, Piedras Pintas area, dry and abd 800 ft. Marshall-Denton-Aiken's Rogers Est. 1, sur No. 15, 9 mi nw of San Diego, coring 4270 ft. Magnolia Pet. Co. No. 1, Milano Land and Gardens Co. 1, sec 85, BS&F sur, east side Loma Novia, coring 2608 ft; Duval-Worden 1, sec 153, 3 mi

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w SR&C field, dr 990 ft; Duval Ranch 1, 330 ft sel, 550 ft swl sec 573, one mile north of Sarnosa field, lcn. T. P. Morgan's J. F. Welder heirs 1, sec 591, 1 mi s of Seven Sisters field, dry and abnd, test sw in sand topped 2803 ft. Santa Clara Oil Prod. Co.'s J. F. Welder heirs 1-A, nw¼ of sec "A" out of sur 103, 6 mi e and 1 mi n of Freer, sd 42 ft for water. Stanolind O&G Co.'s Ira G. Yates (Farmers Life Ins. Co.) 2, sec 416, E. R. Gray Ranch, Labbe area, set csg 2453 ft, gas sand 2454-66½, comp. as gasser. T. G. & M. Drlg. Co.'s Davidson 2, sur No. 90, 3½ mi s Seven Sisters, se No. 1, dry and abnd 3015 ft, dst 2887-2945 ft, show 1800 ft sw, 16 min. Trinity Drillers et al's Clara Driscoll Sevier 1, Sweden Farm Lands, sec 68, Santa Rosalia gr, nw Driscoll field, sp. Westheimer & Daube's L. Campos 1, sec 224, east outpost well of Seven Sisters field, elev 531 ft, df, top Jackson 1720 ft, dst 2200-22 ft, show 2000 ft plo, 10 min, set csg, woc, in Hockley-ensis sand.

EDWARDS COUNTY — Paul Teas' B. J. Stewart 1, se¼, sec 2, GC&SF sur, lcn for 6000 ft test.

FRIO COUNTY — Amerada Pet. Corp.'s Michael 1, 1400 ft nl, 466 ft wl of Alexander Lynch No. 321, ½ mi ne Smith 1, Pearsall field, lcn. W. D. Bacon et al's J. E. Burns 1, T. H. Clifton sur, sw Bigfoot, still sd 2157 ft. Dr. F. L. Thompson's B. W. LaBatt 1, 1265 ft nl, 2085 ft wl of J. P. Uphus sur, No. 169, 8 mi ne Pearsall, lcn abnd.

GOLIAD COUNTY — Keystone Royalties Co.'s C. B. Wood 2 (1-A), John Shearn sur, 3 mi e Berclair, td 6702 ft, ran electric formation testing device, pb 5983 ft, prep to perf. H. T. Potter et al's Lutenbacher 1, blk 25, Goliad Townsite sur, south of Goliad, ru. Sun Oil Co.'s J. R. Kauffman 1, T. T. Trevino sur, 1 mi ne Hords Creek field, lcn cleared. Thompson Drlg. Co.'s H. Taylor Est. 1, W. R. Smith sur, 6 mi nw Goliad, dr 2600 ft.

GONZALES COUNTY — Inter-Allied Pet. Corp.'s C. M. Wells 1, tr 3, sub 1, Jose de la Baume sur, sd 4100 ft, top Edwards 4079 ft. Resource Oil Co.'s Otto Lanbeck 1, J. M. Salinas sur, 3 mi w Gonzales, ru and sd. Tull et al's J. F. Bozka 1, 800 ft sl and el 61.2-ac tr in B. McClure sur, s of Dilworth, lcn.

GUADALUPE COUNTY—Paul Armstrong's Clem Brodnaux 1, 150 ft sl and el 36-ac tr, W. P. King sur, 2 mi ne Kingsbury, lcn. Amy Oil Co.'s J. F. Larison 2, J. K. Davis sur, S. Darst Creek, td 2363 ft, set csg, wocs. Doody Oil Co.'s Katie Lay 2, J. K. Davis sur, S. Darst Creek, dr 860 ft. F. N. Gallagher's W. B. Lay 1, J. K. Davis sur, S. Darst Creek, lcn. Kniffin & Gallagher's Stagal-Lay 2, J. K. Davis sur, S. Darst Creek, set 40 ft sur csg, wocs. Jim Harper et al's J. Z. Fulshear 3, Robt. Smith sur, 2 mi nw Prairie Lea, sd 2110 ft. Henadena Oil Co.'s (Sterling & Wilson) R. P. Lowman 2, G. Allen sur, Staples, lcn. A. D. Locke's J. S. Slaughter 1, Cyrus Campbell sur, 1 mi nw Staples, dr 1030 ft. R. C. Robbins' Mrs. J. W. Manford 1, James Hodges sur No. 374, 1250 ft e Manford pool, sd 1150 ft. W. J. Walton & C. C. Boothe's Allen Phillips 1, Cortines sur, 10 mi sw Seguin, dry and abnd, no details.

HIDALGO COUNTY—Gulf States Oil Co.'s Delta Orchars 1, lot 2, blk 73, Las Mestinas gr, 1 mi s Mestinas field discovery well, waiting on machinery; J. C. Engleman 2, lot 3, blk 70, Las Mestinas gr, 500 ft e of Mestinas field discovery well, dr 4940 ft. Kingwoods Oil Co.'s Osca Daskam 2, blk 30, por 45, 10 mi nw Mission, dk. Maxwell-Mundy-Morris' Southland Dev. Co. (Hidalgo County Water Control & Imp. Dist.) 1, lot 11, blk 20, Alamo Land & Sugar Co. Subd., Alamo tr, 4 mi s Alamo, dr 425 ft. S. J. Sloan et al's Brock & Showers 1, lot 9, blk 16, por 80, Juris of Reynosa, w of Mission, td 6003 ft, perf 4660-66 ft, testing. Dayle L. Smith Oil Co.'s Fairbanks & Young 1, blk 44, por 46, Reynosa Juris, 4 mi e Samfordyce field, 200 ft sur csg. Union Sulphur Co.'s A.R.G.L. & I. 5, lot 2083, blk 86, N. Capisallo dist, Llano Grange Gr, Mercedes area, td 7529 ft, milling out 7492 ft; ARGL & I 6 tr 2358, blk 49, N. Capisallo District 4500 ft ne of Mercedes field, td 7596 ft, set 7-inch casing 7482 ft, dr plugs.

JACKSON COUNTY—L. A. Douglas et al's I. N. Mitchell est 1, 335-ac tr, Stephen F. Austin sur, 1 mi sw Lolita, dr 1045 ft. Shell Pet Corp.'s Mauritz Bros. 1-A, tr 19, A. Kountze sur, ab 237, nw of Mauritz field, coring 6625 ft. T. P. Coal & Oil Co. & Venza Oil Co.'s J. M. Roseborough 1, Morris & Cummings sur, No. 33, ½ mi s Mauritz field discovery well, coring 5825 ft.

JIM HOGG COUNTY—French Oil Corp.'s E. Rodriguez 1, sh M-1, partition of Las Cuevitas gr, lcn. S. L. Miller Oil Co.'s Yeager 1, 150 ft el, 475 ft sl blk 6, sur 20, sd 3540 ft, for orders. P. H. Neilson, Trustee De la Garza 1, 600 ft sl, 580 ft el, blk 293, Pippin sub, Randado gr, set 21 ft 10-in csg and sd.

JIM WELLS COUNTY—R. Putnam et al's E. A. Hawkins et al 1, sh 4, in sh 3, San Diego gr, td 3050 ft sand 2972-86 ft, show 125 lbs 8 min on dst, set csg, wocs. M. T. Smith & Sons' J. C. McGill 1, N. Gusset sur No. 98, 660 ft s of Smith & Story No. 1 Dilworth gasser, Armagosa dist, dst 2525-44 ft show 460 lbs. flow of sul/w, pb and set 7-in cag 2325 ft, completing. J. E. Walsh's W. D. Wade 1, lot 3, blk 6, W. H. Bode sub, Sandia district, sd 1395 ft.

KENDALL COUNTY—J. E. Freeman's Gerfer's 1, Mark Hodgson sur, No. 786, sd 102 ft. Southwestern Dev. Synd. Ltd.'s Willie Werner 1, Torrey sur, No. 781, Sisterdale area, sd 972 ft.

KERR COUNTY—Auld & Evans' Heffner 1, sec 13, BS&F sur, sp. Jeff Love and Eastland Oil Co.'s Jeff Love 5-E, Martinez sur, sec 1594, ½ mi se original Love Ranch test, sd 5625 ft.

KIMBLE COUNTY—Forest Dev. Co.'s Stapp 1, sec 282, dr 1425 ft. Wilcox O. & G. Co.'s Patterson 1, sec 1, D & P Ry sur, ab 915, no rept.

KLEBERG COUNTY—John Bartlett's Anton Dietz 1, blk 16, sec 48, K1&I sur, 2 mi sw of Kingsville field, td 1170 ft, mir to dd. Harry Clark's W. S. Rogers 1, lot 1, blk 36, Kleberg sur, sd 750 ft. Fidelity Explor. Synd.'s Sam Michalk et al 1, lot 5, blk 37, KT&T sur, 5 mi se Kingsville, td 3109 ft, ran electric formation tester, show 1717-26 ft and 2622-33 ft, sd for orders.

LA SALLE COUNTY—Roy Shipman's Coleman 1, sec 514, just west of Atlee, sd 2160 ft.

LEE COUNTY—Douglas Spivey et al's First Natl'l Bank (T. S. Henderson) 1, Wm. L. Mock sur, lcn.

LIVE OAK COUNTY—Benco Oil Co.'s Eliz Mahoney 1, Mark Killely sur, 3 mi w Three Rivers, lcn dropped, td 78 ft. The California Company's No. 1 Gillett Community Lease, Refugio School Land sur, 5 mi e Oakville, coring 2700 ft. Earl Callaway et al's W. R. Lyne 1, sec 74, M. M. Lyne sur, ab 763, re-dr 3782 ft; Moozegemba 1, lot 122, Geo. Est sur, blk A, ab 113, S. L. Williams sur, lcn. Luray Oil Co.'s Little 1, M. M. Shipp sur, ne offset discovery well in McNeill (North) field, top gas sand 4953 ft, dst 4969-5016 ft, show 90 ft mud cut with oil, now dr 5050 ft. Ogden & Reed's D. C. Reed 1, Clegg ranch, sw part of county, prep to sp. Santa Clara Oil Co.'s R. H. Corbett 1, Corbett sur (center of sur) ru. Slick-Urschel Corp.'s Watson & Shipp 1, P. Salinas sur, Fort Merrill area, ru. L. W. Stieren's W. A. Smith 1, 660 ft sl and el of 181-ac tr, T. R. Reese sur, lcn. Trinity Dr. et al's P. E. McNeill Est 1, blk 10, Jane Curry sur, sw outpost well McNeill field, dry and abnd 5474 ft, show sw 5462-74 ft. Wheelock & Collins' Mac F. Kerby 1, T. R. Reese sur, near ne line of Live Oak County, sw of Caesar field, sd 1400 ft for boiler repairs.

MAVERICK COUNTY—Thompson & Streeter's Joseph Wipff 1, sec 18, 7 mi w Chittim field, 10 mi n Eagle Pass, sd 220 ft.

McMULLEN COUNTY—Aransas Oil Co.'s M. H. Reed 1, J. A. Spicer sur No. 70, 12 mi sw Tilden, sd 1681 ft. Bussa Oil Co.'s J. H. Dickinson 1, G. B. Dilworth sur No. 24, 3 mi se of Tilden, dry & abnd 670 ft. John F. Camp Dr. Co.'s Byrne Est 1, B. Odlum sur, sp. Darby Pet. Corp.'s E. R. Hagist 2-B, nw¼, sec 181, dr 803 ft. Marzo Oil Co.'s E. R. Hagist 1-B, sec 6, southern part of county, sd 2061 ft for repairs. E. J. Nelson's Fahler 1, 700 ft el, 2100 ft sl of tr in Geo. Pittuck sur, sp & sd. L. D. Ormsby's Griffith 6, Osborne sur No. 50, dr 890 ft. Reliance Oil & Royalty Corp.'s Shiner Ranch 1, sec 29, Shumway sub of Shiner Ranch, dr 1130 ft. Stewart et al's Guy Lowe 1, Geo. Bright sur No. 21, 5¼ mi sw Tilden, dr 2100 ft. Stephenson & Weust's C. T. Lark 1, W. B. Scrugham sur, lcn. Texio Oil Co.'s Ellen Atkinson No. 1-B, nw½ of ne¼ of Lomax sur No. 96, dr below sur csg. Stella Tiechman's J. J. Henry 1, 575-ac tr, A. Torres sur No. 20, ab 457, 7 mi w Tilden, sd 370 ft.

MEDINA COUNTY—Frank A. Brown's A. E. Brueks 1, John Ward sur, sd 560 ft; Mary R. Winn 1, John Ward sur, set sur csg & sd. Caroco Oil Co.'s (Callahan & Roberts) H. Taylor 2, A. Brushet sur No. 135, 5 mi sw Hondo, sd 385 ft. E. J. Deupree's L. J. Bruecks 1, Henry Castro sur No. 248, sd 680 ft. Ed Falvey et al's McMenemy 1, sur No. 331, G. Petty sur, 4 mi se Devine, dr below 900 ft. Letro Oil Corp's F. B. Forest 1, sec 69, 1½ mi ne Ina field, 1¼ mi Adams field, dr 710 ft. Scoggins & Sanders' L. W. Burrell 1, M. E. Gage sur No. 395, elev 867 ft, sd 2032 ft for csg.

MILAM COUNTY—Mincryst Mfg. Co.'s Bartek 2, J. A. De Pena sur, 3 mi ne Buckholts, sd 1665 ft. L. G. Priest's T. J. Carver

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1, 60-ac tr S. P. Carson sur, 2½ mi sw Rockdale, sd 1400 ft.

NUECES COUNTY—Bluff Pet. Corp.'s Bluntzer 1, sh 6, Bluntz Lands, Casa Blanco, 10 mi n Banquette, td 3045 ft, reset sur csg, woc. J. K. Culton's Russell Savage 1, 7.1-ac tr Villareal sur, just w Corpus Christi, td 4085 ft, sand 4055-85 ft, dst 4079-85 ft, flowed oil 20 min, 51 lbs pressure, set 7-in csg 4079 ft, wocs. Magnolia Pet. Co.'s J. C. Baldwin 4, BS&F Sur No. 165, td 5195 ft, pb & set 7-in csg 3244 ft, woc. Masterson et al's Walt Eschberger 1, sec 37, Pauls sub, Driscoll Ranch, 5 mi s and w of Robstown, sp. H. A. Meyer's J. Harney, Gregorio Fariss league, 1400 ft s of Nueces river, 1 mi e Callaham, lcn dropped. Sherman Nelson et al's Bertha Buckholt 1, blk 4, sec 316, Buckholt partition, 2 mi e Baldwin field, coring 4850 ft. Texon Royalty Co.'s Taggert 1, blk 5, R. Schaeffer land sub sur 401, 1 mi w of Saxet field, coring 3200 ft.

REAL COUNTY—H. J. Heartwell et al's L. J. Haby 2, AB&M sur No. 175, sd 3225 ft.

REFUGIO COUNTY—Edwin M. Jones' J. M. O'Brien 11-A, N. S. Crunk sur, Greta, coring 6930 ft.

SAN PATRICIO COUNTY—Argo Royalty Co. & Willis Storm's Nancy Hobbs 1, Delgado gr, 1 mi s Mathis, sd 3520 ft. Benedum & Tress' E. H. Welder 1, sec 34, Welder sur, 2½ mi w of Plymouth field, coring 7029 ft. Geo. E. Smith et al's J. L. Britton 1, blk 8, sec 5, Third addition, Taft Farms addition, 2 mi se Plymouth field, dr 2250 ft, woc. Stanolind O. & G. Co.'s Alamo Iron Works 1, lot 17, Patrick Fitzsimmons sur, 3 mi sw Sinton, sp.

STARR COUNTY—Ash & Tackett's Margo 1, blk 4, sh 3B, por 70, sand 372-78 ft, put on pump. John H. Clopton's Kelsey-Bass 2-A, por 87, 3½ mi n of State Highway 4, sec 10, sp; Kelsey-Bass 1, center sec 357, lcn; Roos & Bennett 3, 6253 ft s of M. G. Ry. and 3000 ft w of el por 92, ru, 1000-ft test. Cook-Maris-Arnold's Starr County Cattle Co. 1, lot 24, por 84, 2000 ft n of State Highway No. 4, coring 2350 ft. T. K. Irwin's (was A. Nix et al) Starr County Cattle Co. 1, blk 58, J. L. sub, por 89, Barbacoas area, sd 2817 ft. Marc Jenkins et al's N. Garza Jr. 1, 150 ft sl & el blk 10, sh 26, por 70, sp. McCurry & Yates' Starr County Cattle Co. 1, blk 58, J. & L. sub, por 89, Barbacoas area, lcn dropped. Hiriam M. Reed's Starr County Cattle Co. 1, blk 66, Jeffries-Lambeth sub, por 89, coring 2060 ft.

TRAVIS COUNTY—G. A. Arts' Rolff 1, Thos. Hancock sur No. 20, ¼ mi n Sweden, td 960 ft, 6¾-in csg 886 ft, testing. Richey's Lungren 1, 330-ac tr in Kimbro sur, in blk 14, sd 250 ft.

VICTORIA COUNTY—Costa Oil Co.'s Etta B. Terrell 1, 47.5-ac tr, R. Manchola gr, 1500 ft nw Coleto Creek field, dry & abnd 2911 ft. Costa & Eastern Texas' Schovaiasa 1-A, blk 14, Runley sur, Placedo, td 5860 ft, sd/tr 4500 ft. Heep Oil Corp.'s J. J. Welder 1, Phillip Graves sur, near Nursery, ru. Shell Pet. Corp.'s A. M. McFaddin 1, McFaddin area, set 1200 ft sur csg, dd. Welder Oil & Gas Co.'s Welder 1, 2230.9-ac tr in Feline Dimmit Two League gr, 4 mi s Victoria, dr 5010 ft.

WEBB COUNTY—D. E. C. Oil Co.'s Slator Ranch 1, blk 29, Mission Oil Company sub, Slator Ranch, J. S. Borrego gr, sd 2624 ft. O. W. Killam's Ortiz Ranch 1, por 17, 6 mi nw Laredo, dr 1376 ft. Magnolia Pet. Co.'s Volpe Bros. 1, sec 485, n of Carolina-Texas field, dry & abnd 4881 ft. Garcia-Arriba 1, blk 8, Henry James sur, Albercas de Arriba sur, 5½ mi e of Aviator field, dr 3290 ft; Benavides 5-X, blk 119, Hale sub Arispe gr, Cole, dry and abnd 3891 ft. Rhea Nixon & R. W. Talbot's S. S. Billings 1, nw sec se sec 113, 1 mi sw Lopez field, elev 623 ft, df, sand 2170-77 ft, comp on pump. J. E. Neal's Laurel 1, sec 1119, e of Mirando City field, dr 2000. Payne & Martinez's Mrs. M. I. Perry 1, sru 771, lcn. S. S. & B. Oil Co.'s Lone Star Construction Co. 9, por 12, ¼ mi nw of Laredo, sd 300 ft, for water. W. H. Vernor Tr.'s Jefferies Ranch 1, blk 13, sec 1453, 30 mi nw Laredo, sd 40 ft. A. H. Wray's Geo. Steumpke 1, sh 1, Brewster Pasture, Joaquin Galan gr, td 2100 ft, repair rig.

WILLACY COUNTY—King-Woods Oil Co.'s Stillman Ranch 1, lot 16, blk 30, sh 44, Stillman Ranch sur, San Juan Carricitos sur, td 6511 ft, perf 5000-15 ft, swabbing.

WILLIAMSON COUNTY—Glass Bros.' A. Albert 1, P. Coursey sur, sd 785 ft. S. W. Graham's Pfluger 2, J. Jordan sur, sd 1040 ft. Ruel et al's Bochmeyer (Rummell), R. Cartwright sur, sd 800 ft. G. A. Ripley's A. Muery 1, J. P. Wyeke sur, near Coupland, fsh 900 ft.

WILSON COUNTY—Comet Oil Co.'s Jim McDaniel 1, 343-ac tr in Concepcion Botello sur, 4 of Poth, sp & sd. Reimenschneider's Lon Farrell 1, 209-ac tr in Manuel Barrera sur, 6 mi s of Floresville, dr 425 ft.

ZAPATA COUNTY—Murt Cullinan's E. Gutierrez 1, blk 4, sh 2, Fansler partition Comitas gr, 2 mi w Escobas field, sd 40 ft. J. J. O'Hern et al's S. Vela 1, blk 3, por 27, 7 mi ne of Charco Redondo field, sd 2216 ft. Joe Palmer's Emma Markrud 1, blk 22, sec 616, dry & abnd 1405 ft.

TEXAS GULF COAST

ANGELINA COUNTY — Neil Scroggins's Norton Properties 1, Wm. Johnson sur, abd 612 ft. Pioneer Exploration Co.'s Rose 1, S. Odell sur, abd 1449 ft.

AUSTIN COUNTY—T. F. Wood et al's Trenchman 1, se of Millhiem, J. Cummings sur, abd 750 ft.

BRAZORIA COUNTY — Gulf's Wilkes & Smith 1, J. W. Hall sur, making drill stem test at 6301 ft.

BRAZOS COUNTY—Delmar Oil Co.'s Wade 1, J. C. Stuteville sur, abd 360 ft.

BURLESON COUNTY—Carl Dyer et al's Young 1, s of Caldwell, J. Bird sur, dr shale 1150 ft.

CHAMBERS COUNTY — Black Gold Pet. Co.'s Barrow 1, Jackson Lake Prospect, R. Barrow sur, dr clay at 400 ft. Johnson & Anderson's White 1, 2 mi n of Anahuac field, J. McGhehe sur, dr shale 7019 ft. Stanolind's A. D. Middleton 1, Turtle Bay prospect, S. Burney sur, dr shale 6001 ft.

COLORADO COUNTY — Coyle-Concord's Powell B-1, Garwood, I&GN sur, making drill stem test at 3760 ft.

FT. BEND COUNTY—Bunte Oil & Gas Co.'s A. P. George 1, Smithers Lake prospect, J. Jones sur, abd 6010 ft.

GALVESTON COUNTY — Sun's J. E. Hughes 1, Green Lake prospect, W. C. M. Baker sur, dr lime at 3924 ft.

HARRIS COUNTY—H. C. Hill's Swilley B-1, Sheldon prospect, Victor Blanco sur, dr shale 4461 ft. E. E. Young's Griffith 1, w of Humble, A. R. Bodeman sur, woc 4485 ft.

JEFFERSON COUNTY—Humble's R. B. Miller 1, Amelia prospect, A. Savery sur, abd 6470 ft. Sun's Hebert Broussard 1, Labelle prospect, B. Blackmon sur, fsh 8283 ft.

MADISON COUNTY—Poteete et al's Poteete 1, ne of Madisonville, L. Helsey sur, abd 369 ft.

MATAGORDA COUNTY — Continental's Feife 1, Citrus Grove prospect, J. S. Chriswell sur, dr shells 7630 ft. Hamman Exploration Co.'s Cleveland 1, se of Bay City, E. Hall sur, fsh 8010 ft. Helmerick & Payne's Hawkins 1, Sheppards Mott, D. A. McCarthy sur, dr heaving shale 6776 ft. H. M. Smith Corp.'s Wadsworth 1, w flank of Sheppards Mott, S. R. Fisher sur, sd 8418 ft. Sun's Craig 1, e flank of Hawkinsville prospect, T. Williams sur, woc 708 ft.

MONTGOMERY COUNTY — W. C. Batteille's Caswell 1, s of Conroe, D. Davis sur, dk. Wm. Thompson et al's J. B. Scott 1, F. Wheeler sur, woc 2486 ft.

ORANGE COUNTY—Blue Line Oil Co.'s Peet 1, n of Orange, R. Bellew sur, dr gumbo 2330 ft.

SAN JACINTO COUNTY—Cockburn's Lankin 1, Sheppard Prospect, Wm. Hayes sur, abd 5319 ft. Ralph Stern's Love 1, 2 mi nw of Cold Springs, D. McGee sur, sd 530 ft. Darby-Jones-McBee Drilling Co.'s Bennett 1, D. Beer sur, abd 5484 ft.

TRINITY COUNTY—Boone Brothers' Williams Estate 1, n of Trinity, BBB&C sur, dr shale 765 ft.

WALKER COUNTY—Bradley et al's Tonty Lbr. Co. 1, New Waverly area, J. C. Harrison sur, mim.

WHARTON COUNTY—Pure's Edith Paige 1, Blue Basin prospect, J. Pirie sur, dr shale 6721 ft. Sterling Oil & Refining Co.'s F. Janek 1, East Barnard prospect, J. Scott sur, flowed 150 barrels of salt water at 7875 ft. Texas Co.'s Pierce Estate 1-C, Five Corners prospect, J. Caldwell sur, dr shale 6577 ft.

WYOMING

ALBANY COUNTY—Ohio Oil Co., Emery 2, nwc se ne 18-15n-75w, spd.

BIG HORN COUNTY—J. W. Bales, Parker 1, csw sw 23-49n-89w, dr 664 ft. J. H. Shafer 1, sw sw sw 8-49n-91w, dr 1375 ft.

CARBON COUNTY — General Petroleum Corporation of California, Whitford 1, sw se ne 24-20n-34w, dr 5675 ft. Shirley-Wyoming Oil Co., Quealy 1, nw nw ne 21-26n-80w, dr 1300 ft.

CONVERSE COUNTY—Chadron-Osage Oil Co.'s Saulsbury 1, sw ne 27-32n-69w, cementing 6 in csg to top of sand.

FREMONT COUNTY — Wellmington Oil Corporation's Fee 1, nwc 18-26n-98w, dr 3115 ft.

NIOBRARA COUNTY—S. & H. Development Co.'s A. Olinger 1, cnl sw ne 1-35n-63w, cementing the 5 3/16 in csg at 1665 ft with td 1674 ft.

PARK COUNTY—Geo. T. Beck's 1, nw nw 27-53n-101w, dr 1681 ft.

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This Week with the Industry's EQUIPMENT SUPPLIERS

D + B Addition at Dallas Near Completion

Work on the greatly enlarged plant of D + B Pump and Supply Company at Dallas, Texas, has made such satisfactory progress that it is expected to go into production in about 45 days. Chas. D. Wagner, vice president and general manager, advises it is their plan now to take possession and start manufacturing on a regular schedule not later than January first.

Mr. Wagner states that the work consists of a large addition to the previous plant, as well as the installation of the most modern precision machines for manufacturing D + B pumps and pump fittings, and sucker rods, representing a total investment in excess of one hundred and fifty thousand dollars.

Operating plans include a more progressive sales and service procedure, with emphasis on field service; as the new facilities will enable a much closer contact of the manufacturing, sales and service departments, as well as the best cooperation of these departments with the field departments of the oil companies.

Wagner has spent much of his time in Dallas supervising the expansion procedure, and after completion of the plant expects to devote a large portion of his activities to the districts which this unit will serve.

Oil City Brass Works Opens at Corpus Christi

Oil City Brass Works, Beaumont, Texas, announces the opening of a branch store stock at Port Avenue and Buffalo Street, Corpus Christi, Texas, to stock brass and bronze bushing castings, bronze, iron and steel replacement parts, and Appleman bits. Other forged steel products manufactured by the company will be stocked at this branch as the demand requires.

J. S. Cook, formerly sales manager for Southwestern Machine and Supply Company, Refugio, Texas, is in charge of the new store. He has been located in the same territory for several years serving the oil fields.

J. S. COOK

Gaso Adding Equipment To Plant at Tulsa

The Gaso Pump & Burner Manufacturing Company, of Tulsa, is making important additions to its plant equipment, having recently added four machines to its already large and extensive equipment in order to take care of increased business that has developed in the past several months.

It is announced that the company will place on the market, at a very early date, a new pump which will be smaller than any Gaso pump so far introduced. The new pump will be especially adapted for service in core drilling and on pipe lines where a small capacity and high pressure are required.

Fred Matheis Heads Thermoid Rubber Goods Division

The Thermoid Rubber Company, Trenton, New Jersey, has announced the termination of the services of Lloyd Leaver, who has been vice president in charge of sales of the mechanical rubber goods division.

Fred Matheis, who has for many years been in active charge of the department routine, has been elected assistant vice president and will continue to manage the office of the mechanical rubber goods division.

The company also has announced that the additional equipment and machinery that has been purchased during 1935 to take care of increased business and the manufacture of new products will be installed completely by January 1, 1936. Sales so far in 1935 in the mechanical rubber goods division of Thermoid Rubber Company have been over 25 percent in excess of those for the preceding year.

Pittsburgh Equitable Meter Quarter Million for Machinery

Orders for new equipment, which embodies the latest developments in machinery and machine tools, have been placed with 12 American manufacturers by Pittsburgh Equitable Meter Company, and its subsidiary, Merco Nordstrom Valve Company.

It has long been the company's belief and policy that the high efficiency and precision workmanship found in Pittsburgh gasoline and oil meters and Nordstrom lubricated plug valves was, to a large extent, due to the superior and advanced design of its manufacturing equipment. The operating heads of the company spent several days at the Machine Tool Show at Cleveland, studying the merits and efficiency of all new equipment to determine which particular type and make would be best suited and would further increase the efficiency of plant operation and quality of Pittsburgh and Nordstrom products.

International Nickel Has New Gulf Coast Distributor

Effective December 1, the distribution of International Nickel Company, Inc., products in the Gulf Coast, formerly handled by Equitable Equipment Company, will be carried on by Metal Goods Corporation with office and stock in Houston, Texas. Edward Schwartz, who represented International Nickel interests in this territory for many years, will be associated with Metal Goods Corporation. All orders and inquiries from this territory should be sent to Metal Goods Corporation, Houston.

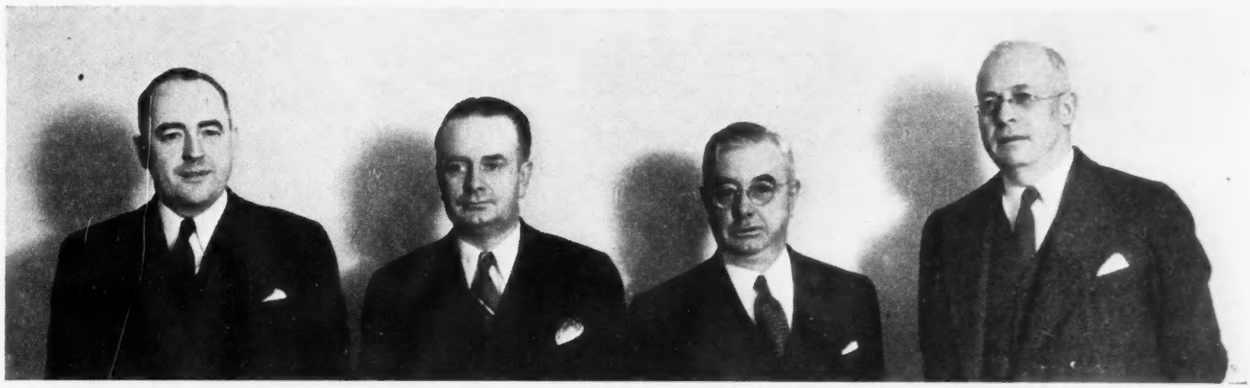
Axelson Opens Division Sales Store at Ventura

Axelson Manufacturing Company of Los Angeles has opened a new sales division store at Ventura, California. Previously, Schwab-Wilson Machine Company was assisted by an Axelson representative in covering this territory. Schwab-Wilson Company will continue as representatives. The store is located at 816 N. Ventura Avenue, and is managed by M. Ray Conger, transferred from Santa Fe Springs.

Goetz Representing Cameron And Rector in North Louisiana

E. W. Goetz, who for a number of years has been identified with the oil industry and the oil equipment manufacturing industry in the Gulf Coast of Louisiana and Texas, has been appointed sales representative of Cameron Iron Works, Houston, and Rector Well Equipment Company, Fort Worth. He will represent both companies in the North Louisiana territory, with headquarters at 2719 James Street, Shreveport. Goetz served 10 years in the warehouse department of Gulf Production Company and affiliated interests, and later gained wide experience and formed a wide acquaintance in the oil equipment branch of the industry while serving as representative for several prominent oil tool manufacturers.

E. W. GOETZ



These executives of Goodyear Tire & Rubber Company and Gustin-Bacon Manufacturing Company have completed a tour of Mid-Continent and Gulf Coast fields. The picture was taken during their stay in Houston. They are, from left to right: J. F. Stephens, general manager, Gustin-Bacon Manufacturing Company, Kansas City, Mo.; W. C. Winings, manager of the mechanical goods department of Goodyear Tire & Rubber Company, Akron, Ohio; A. L. Gustin, Sr., president, Gustin-Bacon Manufacturing Company, Kansas City; and G. A. Waddle, assistant general sales manager, Goodyear Tire & Rubber Company, Okron, Ohio.

Norvell-Wilder Made Distributor for Gilmer

L. H. Gilmer Company, Tacony, Philadelphia, announces the Norvell-Wilder Supply Company as distributors of Gilmer Multiple V-belts in the Texas oil fields. Norvell-Wilder maintains branches at Houston, Fort Worth, Longview, Conroe, Texas, and at Shreveport, Louisiana, with headquarters at Beaumont, Texas.

Charles W. East Is Promoted By Republic

Charles W. East, formerly of the Birmingham, Alabama, office of Republic Steel Corporation has been named assistant manager of sales in Republic's Pipe Division, succeeding George E. Clifford recently appointed district sales manager for Republic in the Los Angeles, California, territory. The appointment was announced by N. J. Clarke, vice president in charge of sales for Republic.

Kellogg Manufacturing Company Reorganized

Kellogg Compressor & Manufacturing Corporation has just been incorporated under the laws of the state of New York to take over all assets of Kellogg Manufacturing Company of Rochester, N. Y. The latter concern has been going through reorganization for the past six months.

J. F. Weller, commonly known as "Sam," has been named president of Kellogg Compressor & Manufacturing Corporation. He was active in the management of the old company during its active rise but has not had his official capacity for two or three years. Associated with him in the new organization will be such old associates as John J. Sharp, H. Ozgood Holland, George B. Collins, Nicholas Arnold and Dan Bohannon. The old representatives in the field, such as O. Arthur Clark, Tracy Outhouse, Niblo, Hamilton and Lee Tuttle with his whole organization will start the new company off with a big drive.

Simultaneously with the announcement of the formation of a new company, was presented for the first time a new line of air compressors which will be a big forward step in design. One of the principal innovations is that the compressor is completely encased in a gun metal covering, trimmed with chromium. This gives it an appearance strictly in keeping with the modernistic service stations that have been erected during the last few years. It also provides an element of safety, as it is impossible to have one's hands or clothing caught in the belt or other moving parts. Ventilation is provided through scientifically designed openings.

Maintenance Engineering Featured in House Organ

Maintenance Engineering Corporation, Houston, Texas, was recently honored as the subject of the house organ, *High Spots*, of Hagan Corporation, sponsors of the Hall System of Boiler Water Conditioning. The entire issue of October 28 was devoted to the work done by Maintenance Engineering Corporation, and its staff of engineers in the prevention of scale formation, as well as removal of old scales, by the controlled use of phosphate in boiler water conditioning.

According to *High Spots* the first carload of Hagan Phosphate was shipped to the Maintenance Engineering Corporation warehouse at Houston on August 8, 1931, after the company had officially become a representative for the Hall Laboratories and Hagan Corporation on August 5, 1931. Since that date Maintenance Engineering Corporation has been a carload distributor of Hagan Phosphate to practically all the boiler plants of any consequence in Texas, chief of which is the petroleum refineries.

On January 8, 1933, Maintenance Engineering Corporation became a marine representative of the above companies with its clientele including the fleets of several large steamship concerns operating in the Gulf as well as the ships and barges of several of the major oil companies.

Crane Appoints New Advertising Manager

Crane Co., Chicago, announces the appointment of H. H. Simmons as advertising manager, effective November 15. In cooperation with other aids to selling, such as exhibits, dealer service, special campaigns, and sales training, he will develop the advertising service so that it can be fitted into the general sales promotional program. To take up his new responsibility, Mr. Simmons terminates a nine-year association with Russel T. Gray, Inc., Chicago advertising agency, of which he has been vice president and account executive.

Mr. Simmons goes to his new position with a broad training in advertising—particularly in the industrial field. After graduating from the University of Illinois in civil engineering, he spent the first years of his business life in the trade publication field, serving successively as associate editor, advertising representative and business manager. His more recent activity has been in the advertising agency field, both on general accounts and in specialized service to industrial advertisers. Among the markets which he has had opportunity to study intensively are power plant, oil and gas, railroad, chemical, food, municipal and construction. This experience fits him admirably for his new duties.

Winn Heads Exposition Transportation Committee

Tulsa.—A. F. Winn, traffic manager of Skelly Oil Company, has been renamed chairman of the transportation committee of the ninth International Petroleum Exposition to be held here next May 16 to 23.

Winn will appoint his committee members immediately and begin work on a transportation program.

The committee will have as its duties the securing of reduced freight rates for exhibitors, the planning and working out of special trains for visitors who will come to the exposition, and the publicizing, through the railroads over the country, of the exposition.

A meeting of railroad representatives will be held in Tulsa about the first of the year, Winn said.

Air Lift Pumping System

The Ingersoll-Rand method of air lift pumping of water, oil, or other fluids is described in a recently-issued 24-page bulletin No. 9042. The advantages of air lift pumping over other methods for certain field conditions are brought out, several applications are illustrated and described, the theory of air lift pumping is set forth in detail, and a number of different compressors for supplying the air are shown. A copy of Bulletin No. 9042 can be obtained from Ingersoll-Rand Company, 11 Broadway, New York, or any branch office.

Squeaks from the Bull Wheel

One Hour With You

Jailer: (to prisoner awaiting execution)—"You have an hour of grace."
Prisoner: "O.K. Bring her in."

A Perfect Bust

Her: "How did you like the bridge party last night?"
Him: "It was fine until the cops looked under the bridge!"

Old Army Game

A little young thing entered a doctor's office. "Doc," she said, "I need an operation."
"Major?" asked the doctor.
"No," replied the girl, "Second Lieutenant."

It Does

Sam—Say, niggah, my feets hurts. I'se got on patent leather shoes and patent leather draws.
Bo—You have!
Sam—Nah! It does!

Progress

Boss: "How are you getting along with arithmetic, Sam?"
Sam: "Well, Ah don learn to add up all de noughts, but de figgers still bother me."

Too Bad!

First Old Maid: "What were you screaming about last night?"
Second Old Maid: "I had an awful nightmare. A man was chasing me and chasing me and chasing me and he could't catch me."

Easy Found

That was some blond you had with you last night. Where did you get her?
Don't know. Just opened my billfold and there she was.

Wrong

"Any complaints?" asked the orderly officer, looking in at the men's mess.
"Yes, sir," said a young private; "the bread's all wrong."
"What's wrong with it?"
"Well, it defies the law of gravity, sir. It's as heavy as lead, but it won't go down."

No Trunk

A hillbilly edged up to the ticket window of a little jerkwater railroad station.
"Mister," he said, "I aims to get to New York to fiddle in Zeb Stewart's Kentucky band. Can you fix me up for to get there?"
"Certainly," replied the agent. "The Special goes through here in about five minutes, and I can flag her for you—but what about your trunk?"
"Trunk?" asked the puzzled mountaineer. "What's a trunk for?"
"To put your clothes in," replied the agent.
"What!" cried the scandalized hillbilly, "An' me go nekked!"

'S Auful

"Not a day passes but what my wife shows her incompatibility."
"Ain't it a crime the way women dress!"

Symptoms

"Madam," announced the new maid, "your husband is lying unconscious in the reception hall with a large box by him crushing a paper in his hand."
"Ah," cried the mistress in ecstacy, "my new hat has come."

Nothing's Perfect

Diner: "I see that tips are forbidden here."
Waitress: "Bless your heart, sir, so was the apples in the garden of Eden."

Explanation Stands

My wife came in very late last night,
Explaining that she had spent the evening
With her friend, Cora.
But she did not look me in the face
When she said it.
But what could I say,
Coming in but a moment before,
After having spent the evening
Myself
With Cora.

Try Nujol

A New York paper's automobile department received the following query. Can you tell me the cause of breaking the teeth of my spider gears in my rear end? Also my clutch does not release right, as when I put it into first it gives a jerk. Also is there any way to prevent humming in my rear end?

An Epitaph

Here lies the body of Roderick Souse
His shoes were found in a neighbor's house.

Friendly Enemies

"It's no wonder you're such a little sissy," said the bad boy to Mary. "Your ma and pa were married by a justice of the peace."
"Well," answered the very independent Mary, as she wiggled her vampish fingers at him, "from the noise I hear coming from your house, your ma and pa must have been married by the Secretary of War."

Trouble Enough

The Newlyweds were dining in a restaurant when a stylish blonde entered and gave the husband a glance of recognition and a dangerous smile.
"Robert," said the young wife, "who is that woman?"
"Now, for heaven's sake," he replied, "don't go bothering me about who she is. I'll have trouble enough explaining to her who you are."

Some Trick

Math. Prof.: "Now, Mr. Zilch, if I lay three eggs here and five eggs here, how many eggs will I have?"
Mr. Zilch (with dubious air): "I don't believe you can do it, sir."

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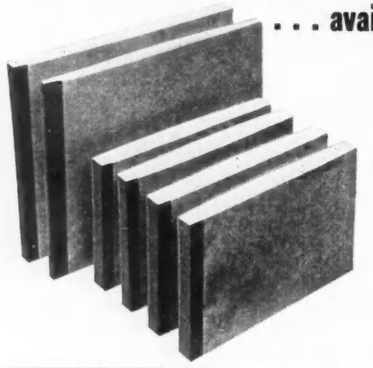

After carefully reviewing the forms of a number of oil companies, The Gulf Publishing Company has made up six standard forms listed below and has produced these in such quantities as to enable oil companies to secure them at substantial savings.

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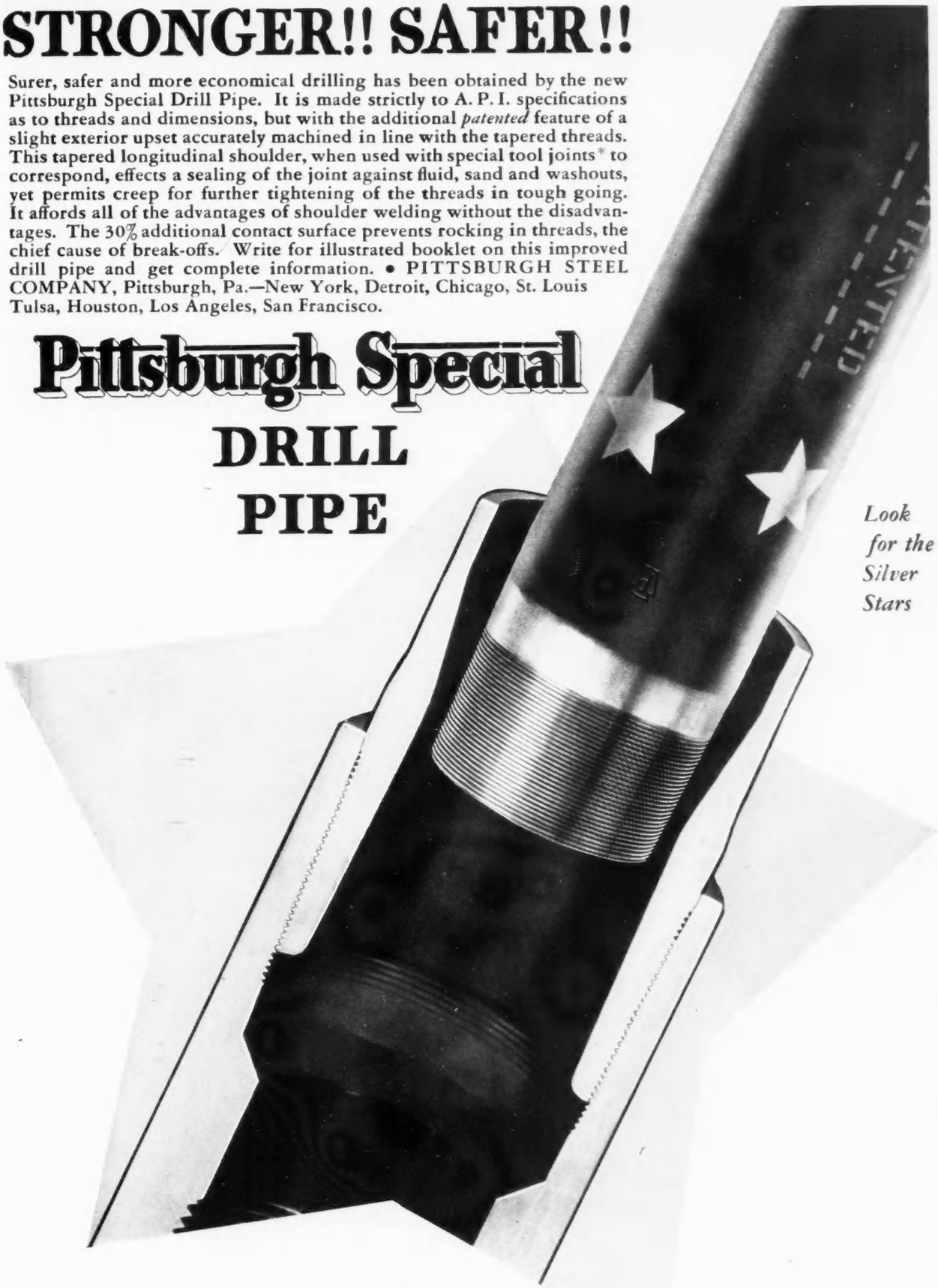

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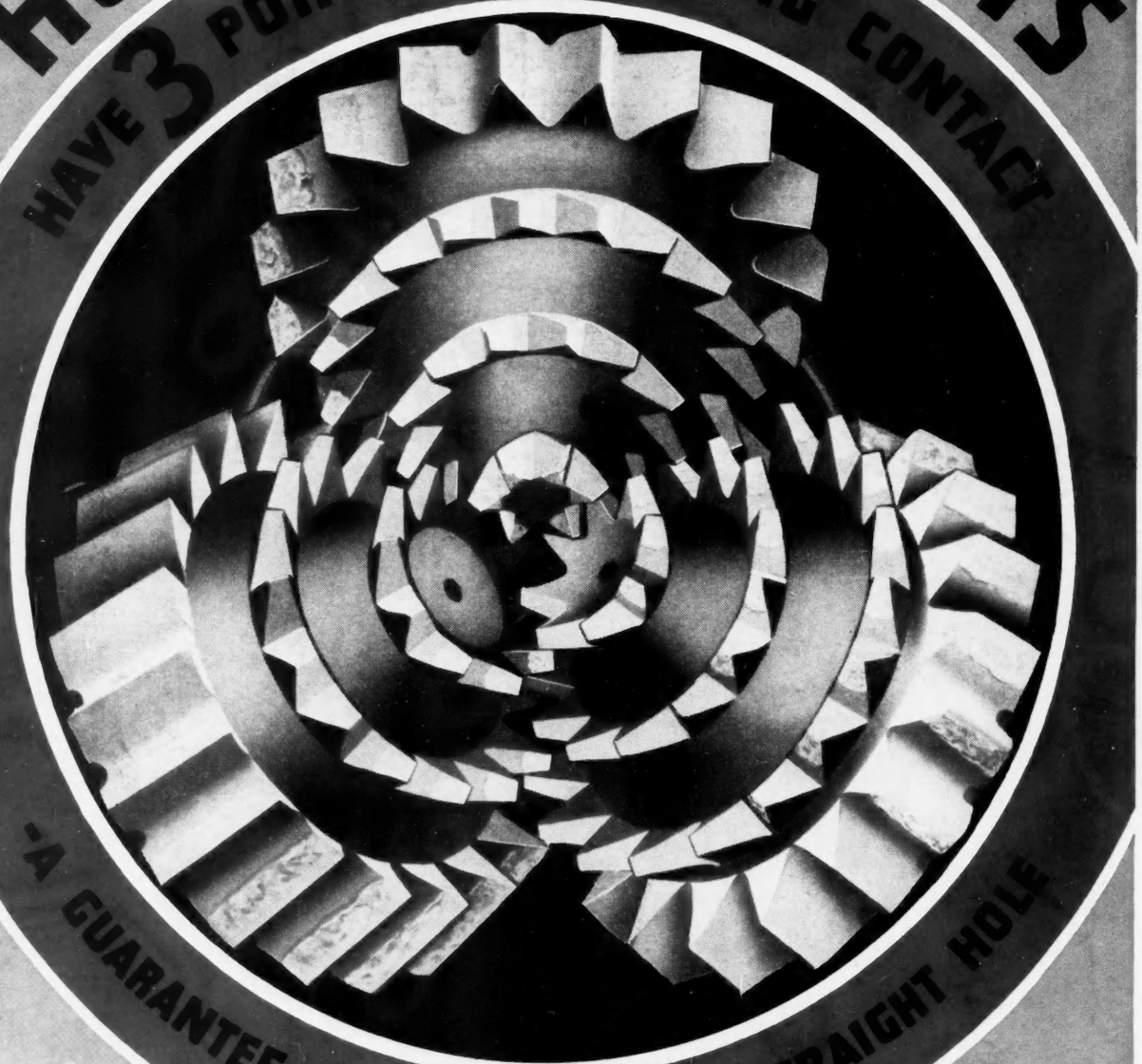

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